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Editors office address:
Simon Kuznets Kharkiv National University of Economics
61166, 1-A Inzhenerny Ln., Kharkiv, Ukraine
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Using cluster analysis of the transport and logistics infrastructure of Ukraine to form regional development strategies

Tetiana Kolodizieva*

PhD in Economics, Associate Professor

Simon Kuznets Kharkiv National University of Economics

61166, 9A Nauky Ave., Kharkiv, Ukraine

<https://orcid.org/0000-0001-6247-7179>

Abstract. The war caused uneven and asymmetric changes in the transport and logistics infrastructure of Ukraine, which necessitated the study of the level of its development in individual regions, with their subsequent grouping and development of differentiated strategies for stabilisation and further development of logistics during the period of martial law and post-war economic recovery. The aim of the article was to develop methodological approaches to justifying and developing strategies for stabilisation and development of the transport and logistics system of Ukraine during the war and post-war period, taking into account the asymmetric and uneven impact of the war on the regions. To achieve the goal, the cluster analysis method was chosen to group the regions of Ukraine by the potential/functioning of their transport and logistics infrastructure, the level of development of which was assessed as very high, high, high, medium and low. As a result of the clustering and grouping of regions of Ukraine by indicators of “number of enterprises” (characterises logistics potential), “volume of implementation of transport and logistics infrastructure enterprises” (functioning of logistics), five differentiated strategies were proposed for the period of martial law and in the post-war period, which cover the following aspects of the strategic development of logistics in the regions of Ukraine: infrastructure, logistics and operational, security, innovation and technology, integration (international), economic, spatial and regional and socio-humanitarian. The key strategic directions for the development of transport and logistics infrastructure of Ukraine in war conditions include the reorientation of logistics flows to the western regions, decentralisation of logistics processes and ensuring flexibility of routes in accordance with the criteria of safety, efficiency and effectiveness. In the post-war period, the priorities for the restoration and development of the transport and logistics system were identified as integration into the European transport space, the development of modern logistics hubs, and the implementation of intelligent logistics solutions. The practical value of the study is based on the fact that the comprehensive implementation of the proposed strategies will ensure the stability of logistics systems during the war period and create the prerequisites for effective post-war restoration and integration of Ukraine into global transport and logistics networks

Keywords: regional logistics infrastructure; logistics; smart logistics; clustering; strategic approach

● INTRODUCTION

Since the beginning of the full-scale Russian invasion, the logistics infrastructure of Ukraine has undergone significant transformation due to its destruction, the cessation or reduction of the activities of transport and logistics enterprises, the partial occupation of Ukrainian territories, and the shift of the centre of gravity of economic flows from the east to the west of the country. This has led to significant changes in the internal regional structure of logistics

in Ukraine, which has updated the scientific search for new ways to adapt domestic business to changes in the logistical accessibility of individual regions, as well as the development of regional strategies for the development of logistics infrastructure in wartime and during the post-war revival of the Ukrainian economy.

Changes in the logistics landscape of Ukraine have been studied by many researchers who analysed various

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*Corresponding author (kolodizeva@ukr.net)



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aspects of the functioning of logistics chains in wartime. Thus, Y. Krykavskyy *et al.* (2023), using the graphic visualisation method – Futures Wheel, identified a group of consequences of the Russian-Ukrainian war – “destruction of logistics infrastructure” and identified within this group the effects of the wave effect, such as: attacks and blockades of sea and river ports, use of alternative export and import routes, increased use of Danube ports, closure of airways, fuel shortage as a result of the destruction of oil depots, increased transport costs, shortage of vehicles, destruction of roads/railways/ports, delays in deliveries, restrictions on transport flows at customs.

In line with these findings, D. Steblak & V. Lyssy (2022) emphasised that “the events of February 24, 2022, changed not only the social sphere of the population’s life, but also significantly affected international economic relations, which is especially noticeable in the field of international logistics”, emphasising the profound transformation of Ukraine’s logistics environment under the pressure of wartime.

L. Lebedeva & D. Shkuropadska (2024) identified, in addition to the above, such consequences of the war as a decrease in the level of commodity stocks due to increased risks of losses, difficulties with procurement and a shortage of warehouses due to their destruction; overloading of European infrastructure due to different track widths and low equipment productivity. The authors propose to increase the sustainability of transport and logistics systems of Ukraine through the implementation of infrastructure, technological, organisational and economic measures. In terms of organisational measures, special attention is paid to strategic planning for the development of transport and logistics systems, taking into account possible risks and scenarios of crisis situations.

According to Ya. Korniiiko & S. Karpeliuk (2026) the impact of the war on the transport and logistics infrastructure was manifested in the formation of a multi-channel multimodal system, where the ports of the Odessa region, the Danube cluster and land routes with the European Union play the main role. The stability of logistics chains in the conditions of the war period began to be determined by the ability to quickly redistribute transportation volumes between routes and modes of transport, which necessitates the need for cluster analysis of transport corridors. The logic of the functioning of domestic logistics has changed priorities: from tariffs to taking into account risks, infrastructure availability, queues, inspections and security factors.

I. Kyrchata *et al.* (2024) identified strategic directions for the restoration and development of Ukraine’s transport infrastructure based on a project approach. Y. Rudyk *et al.* (2023) proposed a set of measures to stabilise domestic logistics in terms of ensuring the functioning of grain supply chains, including the construction of terminal complexes on the border with the EU; development of pipeline transport of vegetable oils, increasing the fleet of hopper wagons and trucks, allocation of separate railway routes to EU ports, development of alternative export corridors through the Danube and European ports.

Summarising the publications of Ukrainian scientists on the impact of the war on the transport and logistics infrastructure and the prospects for its stabilisation/restoration, it was noted that most authors characterise the

impact of the war as uneven, asymmetric and multidimensional, noting its numerous negative consequences. At the same time, the authors focus their attention on measures, models, mechanisms that directs on infrastructural, technological, organisational and economic transformations in the near and long term. Scientists focus particular attention on the strategic aspects of stabilisation and restoration of the logistics system of Ukraine. At the same time, scientific works lack a methodological approach to developing strategies for the development of the transport and logistics system of Ukraine, taking into account the uneven negative impact of the war on the regions: different levels of infrastructure destruction, different accessibility of ports, corridors and multimodal nodes, differences in throughput and institutional conditions, different intensity of risks and logistical constraints and specific needs of individual industry regions. The aim of the article was to advance methodological approaches for substantiating and designing strategies aimed at the stabilisation and development of Ukraine’s transport and logistics system during the wartime and post-war periods, considering the asymmetric and uneven effects of the war across regions.

● MATERIALS AND METHODS

The study was conducted according to the following sequence. At the first stage, the rationale for and the structure of the cluster analysis of the transport and logistics infrastructure (TLI) of Ukraine’s regions were substantiated and defined. At the second stage, the empirical analysis was carried out, involving the clustering of 25 regions of Ukraine based on the selected indicators: “number of enterprises” and “sales volume of TLI enterprises”. For the cluster analysis, a sample of 25 regions of Ukraine was formed (excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol, parts of the temporarily occupied territories of Donetsk and Luhansk regions, as well as territories temporarily occupied by the Russian Federation and areas where hostilities are or have been ongoing) (State Statistics Service of Ukraine, n.d.). Luhansk, Donetsk, and Kherson regions were included in the analysis as administrative regions of Ukraine based on available official statistical data and estimates, which allowed to reflect the asymmetric impact of the war on the transport and logistics infrastructure of the regions. The clustering procedure (k-means) was conducted based on the indicators “number of enterprises” and “sales volume” in freight road transport, freight rail transport, and warehousing using IBM SPSS Statistics.

At the third stage, a methodological approach to the development of differentiated strategies for the stabilisation and advancement of Ukrainian regions in both wartime and post-war periods was elaborated. To assess the asymmetric development of regional transport and logistics infrastructure, cluster analysis was employed as one of the most widely used methods in similar studies (Dmytriieva, 2020). The clustering procedure (k-means), complemented by the Nearest Neighbour Analysis method, was performed using the IBM SPSS Statistics software package. For the clustering of regional transport and logistics systems, the most relevant indicators characterising their condition were selected – namely, indicators of resource potential and market activity in the logistics sector, including:

- the number of active enterprises by mode of transport;
- the number of operating warehousing enterprises (warehouse complexes, logistics centres, distribution centres, logistics hubs, etc.);
- sales volume by mode of transport;
- sales volume of warehousing enterprises.

The “number of enterprises” indicator reflects the state of the resource base (logistics potential), while the “sales volume” indicator captures the level of logistics activity (functional performance). Both indicators are representative, statistically available, and enable interregional comparisons across key elements of the logistics system – particularly the most significant modes of transport in Ukraine (freight road and freight rail transport) as well as the warehousing sector. This justifies their selection for the cluster analysis of regional transport and logistics systems. The objective of the cluster analysis is to group Ukrainian regions according to the state and current performance of their transport and logistics infrastructure, which can be characterised as exhibiting: very high, high, above-average, medium, or low levels of development. The study covered the period 2012–2024, which allowed comparing the state of regional transport and logistics infrastructure before and during military transformations. The clustering of regions covered the period 2024. Statistical data were obtained from official national statistical sources and processed in a comparable regional format (State Statistics Service of Ukraine, n.d.).

In addition to freight road and rail transport, the analysis also included freight water transport due to its strategic importance for export logistics, foreign trade flows, and the functioning of port infrastructure during wartime. The inclusion of water transport indicators was justified by the significant regional differentiation in access to maritime logistics infrastructure and the changing role of alternative transport corridors under wartime conditions. The number of clusters was determined based on the interpretability of results, the minimisation of intra-group variance, and the maximisation of inter-group differences achieved through the k-means clustering procedure. The clustering outcomes were additionally verified using the Nearest Neighbour Analysis method in order to ensure the stability and consistency of the identified regional groups. To support the development of differentiated stabilisation and development strategies, integration matrices were constructed on the basis of two dimensions: the level of logistics infrastructure potential and the level of logistics activity. Regions were assigned to corresponding groups according to their relative positions within the cluster structure and the calculated indicator values. This approach enabled the identification of regions with similar logistical characteristics, infrastructural constraints, and development capacities, thereby ensuring the transparency and reproducibility of the analytical results.

● RESULTS

The transport and logistics infrastructure of a country constitutes an integrated system of transport routes, modes of

transport, and communication, warehousing, and auxiliary facilities that ensure the implementation of logistics processes and the functioning of supply chains in both national and global markets. A systematic review of 28 articles conducted by A.M. Varghese & R.P. Pradhan (2025) generally confirmed the causal relationship between “transport infrastructure” and “economic growth” across countries, underscoring the significance and critical role of transport and logistics infrastructure even in peacetime. This is also emphasised in their works by scientists B.B. Badassa *et al.* (2020). A. Konno *et al.* (2021) analyse the impact of road infrastructure on economic productivity on a global scale; the spatial effect is taken into account in the regional production function. In crisis situations, such as war, the importance of transport and logistics infrastructure increases manifold. Its condition directly determines the resilience of a country, its ability to ensure continuity of supply, sustain economic activity, respond promptly to risks, and guarantee the functioning of critical sectors under large-scale threats.

The strategic potential of transport and logistics infrastructure lies in its capacity to influence countries’ integration into the global transport system and international trade, as well as their investment climate, defence capability, and national security (Stehnei *et al.*, 2026). As outlined in the Transport Strategy of Ukraine up to 2030, the modern development of Ukraine’s transport system should take into account the need to adapt to EU standards, technical regulations, and governance principles, as well as the importance of innovation and advanced technologies in shaping a more efficient model for managing the development of the national transport network (Order of the Cabinet of Ministers of Ukraine No. 430-r, 2018).

Ukraine’s transport and logistics infrastructure has experienced extensive destruction, asymmetric changes, and structural transformations that have adversely affected the national economy. At the same time, it has demonstrated resilience and continues to function and fulfil its essential tasks. Ensuring its continued operation during wartime and its recovery in the post-war period depends on the implementation of effective strategies aimed at leveraging opportunities and mitigating negative ripple effects (Krykavskyy *et al.*, 2023). The impact of the war on significant changes in the structure of transportation by various modes of transport is investigated by D. Steblak & V. Lysyy (2022). Since 2022, sales volumes across certain components of Ukraine’s transport and logistics infrastructure have declined unevenly. The railway freight sector and aviation transport have proven particularly vulnerable, primarily due to the closure of Ukraine’s airspace. At the same time, the dynamics of sales volumes in freight road transport, maritime freight transport, and the warehousing sector have generally remained positive (Fig. 1).

Significant shifts in the functioning of transport infrastructure have occurred across all regions of Ukraine, but individual regions have been affected by military actions to varying degrees. One of the negative effects of the war is the regional unevenness of the current state of transport and logistics infrastructure (Fig. 2).

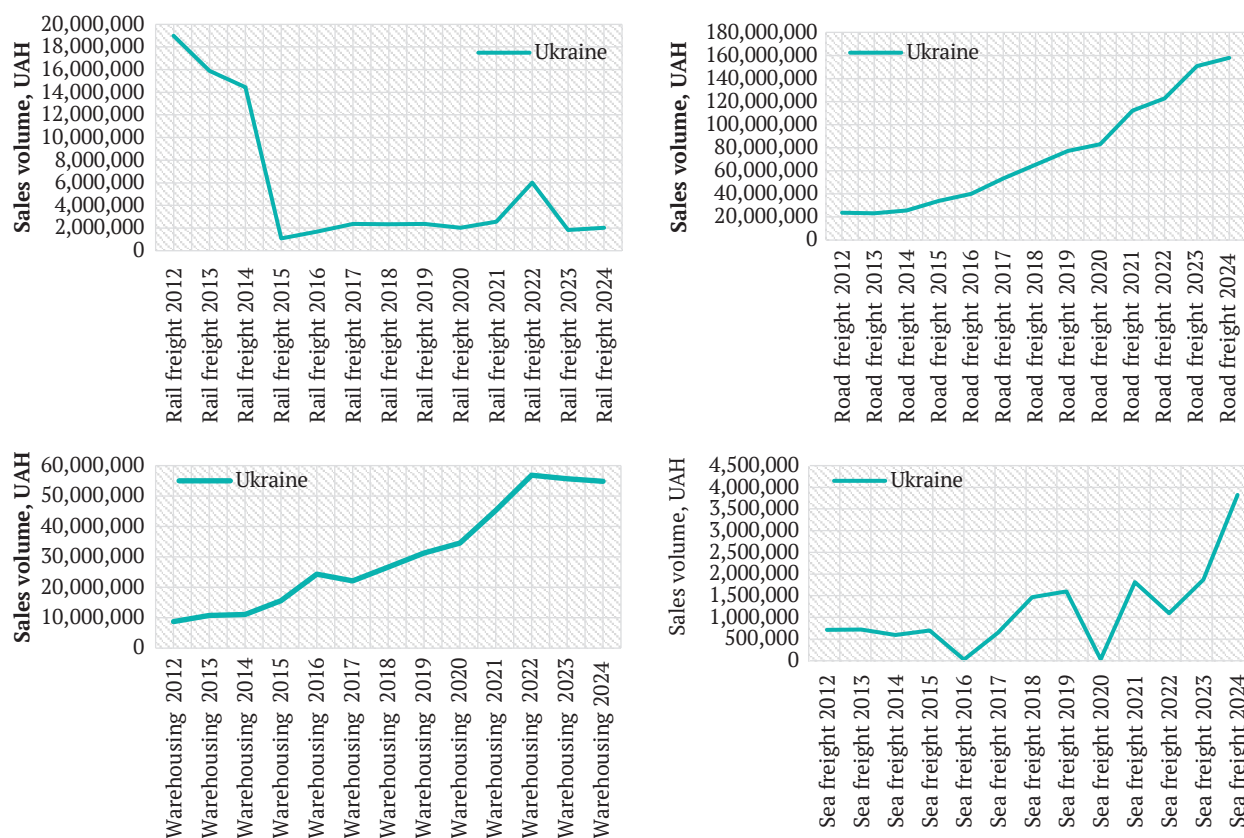


Figure 1. Dynamics of sales volumes across TLI components

Source: developed by the author based on State Statistics Service of Ukraine (n.d.), S. Smerichevska *et al.* (2023)

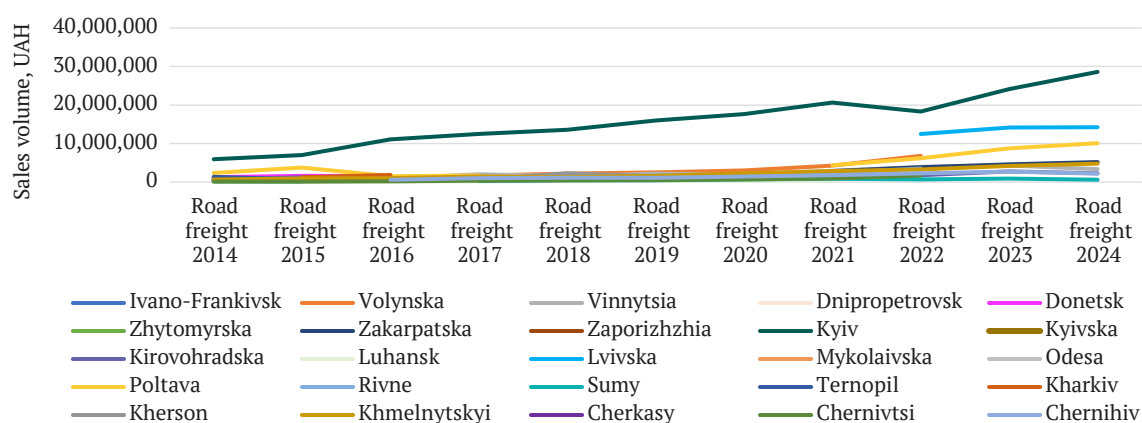


Figure 2. Uneven development of freight road transport in the regions of Ukraine

Source: developed by the author based on State Statistics Service of Ukraine (n.d.)

M. Stehnei *et al.* (2026) noted an intensification of intersectoral asymmetries in the use of transport and logistics potential in Ukraine, which significantly complicates the implementation of competitive and internationally oriented transport operations, reduces the sector's investment attractiveness, and limits opportunities for multimodal transportation. An analysis of the structure of Ukraine's transport and logistics system across regions

revealed significant disparities in the number of operating transport enterprises (by mode of transport) and warehousing facilities. Considerable differences are also observed in logistics activity, reflected by the indicator "sales volume of transport and logistics infrastructure enterprises (goods and services)". The selection of the indicators "number of operating transport and warehousing enterprises" and "sales volume of transport and logistics

infrastructure enterprises (goods and services)” is justified by their importance and analytical interpretability. Clustering Ukrainian regions based on these two indicators

makes it possible to identify leading regions as well as regions with high or low levels of transport and logistics infrastructure development (Table 1).

Table 1. Justification of key indicators for clustering the transport and logistics system of Ukrainian region

Indicator	What it measures	Why it is important for TLI analysis	What conclusions it allows
Number of operating transport and warehousing enterprises	Level of infrastructure provision and availability of logistics capacity in the region	Reflects the scale of logistics infrastructure, availability of transport services, level of competition, and capacity to handle freight flows	Identify logistics density; assess competition level; detect regions with shortages or excess capacity; evaluate investment attractiveness
Sales volume of transport and logistics infrastructure enterprises (goods and services)	Actual economic activity of enterprises, their market participation, and demand for logistics services	Indicator of logistics activity; shows real contribution to the economy and intensity of logistics operations	Identify economically active regions; assess sector productivity; detect regions with high demand; compare enterprise efficiency
Regional logistics activity (integrated combination of the two indicators)	Ratio between the number of enterprises and their economic performance	Enables assessment of efficiency of infrastructure use, not only its availability	Identify leading regions, regions with development potential, and problem areas with low efficiency

Source: compiled by the author of this study according to The Strategy of Economic Security of Ukraine for the Period Up to 2025 (2021)

The use of these indicators for the main land transport modes (freight road and rail transport) and warehousing enterprises within the cluster analysis of Ukrainian regions allows for the assessment of both the potential of transport and logistics infrastructure (number of enterprises) and actual logistics activity (sales volume). This makes it possible to obtain a realistic picture of the development of regional transport and logistics systems, identify imbalances, and

determine strategic priorities for the development of key components of regional TLI during wartime and the post-war period. As a result of the cluster analysis using the k-means method, five clusters of Ukrainian regions were identified based on the “number of enterprises” indicator, which significantly differ in the level of entrepreneurial activity in the transport and logistics infrastructure sector (freight transport and warehousing) (Tables 2-3).

Table 2. Cluster centres (units) based on the indicator “number of enterprises” in freight road transport, freight rail transport, and warehousing

Final cluster centres	Cluster				
	1	2	3	4	5
Freight road transport	1,062	449	236	588	85
Freight rail transport	68	9	3	10	0
Warehousing	231	54	31	107	13

Source: developed by the author

Table 3. Number of regions in each cluster based on the indicator “number of enterprises” in freight road transport, freight rail transport, and warehousing

Number of cases in each cluster		
Cluster	1	1
	2	3
	3	11
	4	2
	5	8
Valid		25
Missing		0

Source: developed by the author

Cluster 1 (highly developed centre). This cluster includes only the city of Kyiv, indicating its absolute leadership in terms of the number of operating enterprises. The values of indicators in this cluster significantly exceed others, confirming Kyiv’s role as the key logistics and economic hub of the country.

Cluster 2 (high level of development). Includes three regions (in particular, Lviv, Odesa, and Volyn regions). This cluster is characterised by a high concentration of enterprises, especially in road transport and warehousing. These

regions benefit from advantageous geographical locations and active foreign economic relations.

Cluster 3 (medium level of development). The largest cluster (11 regions), covering most regions of Ukraine. It is characterised by average indicator values across all activities, indicating relatively balanced but not maximally efficient development of the transport and logistics sector.

Cluster 4 (above-average level). Includes two regions (in particular, Dnipropetrovsk and Kyiv regions), which demonstrate elevated indicators but lag behind the leaders.

These regions are characterised by a developed industrial base and significant transportation volumes.

Cluster 5 (low level of development). unites eight regions with the lowest values of enterprise numbers across all analysed activities. This cluster includes regions significantly affected by military actions or those with limited economic potential.

Thus, a significant differentiation of Ukrainian regions in terms of the level of logistics activity development is observed. The greatest influence on cluster formation is exerted by road transport, as evidenced by the highest

F-value (Table 4). A clear centre of economic activity (Kyiv) and a group of lagging regions can be identified. Most regions are at a medium level of development, indicating potential for growth. The clustering results confirm the spatial unevenness of the development of Ukraine's transport and logistics system. As a result of clustering Ukrainian regions using the k-means method based on the indicator "sales volumes" in freight transportation by road and rail, as well as in the warehousing sector, five clusters were identified, characterised by significant differences in the level of economic activity (Tables 5-6).

Table 4. Results of the analysis of variance (ANOVA)

based on the indicator "number of enterprises" in freight road transport, freight rail transport, and warehousing

ANOVA	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Freight road transport	302,377.984	4	2,363.455	20	127.939	<0.001
Freight rail transport	1,068.110	4	21.246	20	50.273	<0.001
Warehousing	13,152.740	4	506.984	20	25.943	<0.001

Source: developed by the author

Table 5. Cluster centres (UAH) of each cluster by the indicator "sales volume" of freight road and rail transport and warehousing

Final cluster centres	Cluster				
	1	2	3	4	5
Freight road transport	162,422.3	28,595,728.9	3,557,962.1	0.0	11,683,484.6
Freight rail transport	5,584.7	0.0	0.0	295,248.7	28,226.8
Warehousing	540,155.8	17,987,497.5	1,248,286.8	11,554,508.4	4,102,338.7

Source: developed by the author

Table 6. Number of regions in each cluster by the indicator "sales volume" of freight road and rail transport and warehousing

Number of cases in each cluster		
Cluster	1	13
	2	1
	3	7
	4	1
	5	3
Valid		25
Missing		0

Source: developed by the author

Cluster 1 (low level of sales volumes). The largest cluster (13 regions), which includes regions with low sales volumes across all types of activities. These regions are characterised by limited economic activity in the transport and logistics sector, which may be due to weak infrastructure or the impact of external factors (in particular, military actions).

Cluster 2 (maximum level – leader). Includes only the city of Kyiv, which demonstrates the highest sales volumes, especially in road transport and warehousing. This confirms the dominant role of the capital as the key economic and logistics centre of the country.

Cluster 3 (medium level of development). Includes 7 regions with moderate sales volumes. This cluster is characterised by relatively stable development, but without significant dominance in any particular mode of transport.

Cluster 4 (specialised cluster). Represented by a single region (Dnipropetrovsk region), which stands out due

to high sales volumes in rail transport and warehousing, indicating its industrial specialisation and important role in freight transportation.

Cluster 5 (high level of sales volumes). Includes 3 regions (in particular, Kyiv, Lviv, and Poltava regions), which are characterised by significant sales volumes, especially in road transport and logistics. These are regions with well-developed transport infrastructure and advantageous geographical location.

Thus, a high degree of uneven distribution of sales volumes across the regions of Ukraine has been identified. Clear poles of economic growth can be distinguished – namely, the city of Kyiv and certain industrial regions. The greatest influence on clustering (as in the case of the "number of enterprises" indicator) is exerted by the road transport indicator, as confirmed by the highest F-value (Table 7).

Table 7. Results of the analysis of variance (ANOVA)
based on the indicator “sales volumes” in freight road transport, freight rail transport, and warehousing

ANOVA	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Freight road transport	246,847,405,259,503.970	4	1,034,101,439,217.838	20	238.707	<0.001
Freight rail transport	20,444,039,661.624	4	482,300,229.704	20	42.389	<0.001
Warehousing	97,373,169,825,631.500	4	2,040,049,384,909.675	20	47.731	<0.001

Source: developed by the author

A significant share of regions belongs to the group with low sales volumes, indicating the need to stimulate their development. The formation of distinct clusters is determined by both the economic specialisation of regions and their geographical location and infrastructural capacity. As a result of clustering 25 regions

of Ukraine using the k-means method based on the indicators “number of enterprises” and “sales volumes” in water transport, three clusters were identified, which significantly differ in the level of development of enterprises in the maritime and river transport sectors (Tables 8-11).

Table 8. Cluster centres (units) of each cluster based on the indicator “number of enterprises” in freight water transport

Final cluster centres	Cluster		
	1	2	3
Sea freight transport	0	9	36
Freight river transport	0	14	3

Source: developed by the author

Table 9. Number of regions in each cluster based on the indicator “number of enterprises” in freight water transport

Number of cases in each cluster		
Cluster	1	23
	2	1
	3	1
Valid		25
Missing		0

Source: developed by the author

Table 10. Number of regions in each cluster by the indicator “sales volume” of cargo water transport

Final cluster centres	Cluster		
	1	2	3
Sea freight transport	0.0	338,880.8	3,514,536.6
Freight river transport	0.0	120,899.9	0.0

Source: developed by the author

Table 11. Cluster centres (units) of each cluster by the indicator “sales volume” of cargo water transport

Number of cases in each cluster		
Cluster	1	23
	2	1
	3	1
Valid		25
Missing		0

Source: developed by the author

Cluster 1 is the largest and includes 23 regions. It is characterised by minimal or zero values of the indicators, indicating weak development or the actual absence of water transport enterprises. This suggests that for most regions of Ukraine, water transport is not a significant segment of economic activity, which may be explained by geographical, infrastructural, and economic factors.

Cluster 2 is represented by only one region – the city of Kyiv – which is characterised by a moderate level of development of river transport enterprises and limited activity in maritime transport. This highlights the specific role of the capital as a logistics and transport hub, where river transport has a limited but present significance.

Cluster 3 also includes a single region – Odesa region – which significantly differs from others due to high indicators of maritime transport enterprises. This confirms its key role as the main maritime transport centre of Ukraine and indicates a high concentration of relevant infrastructure and business activity.

The distances between cluster centres are substantial, confirming a clear differentiation of regions according to the analysed indicators. The results of the analysis of variance (ANOVA) demonstrate statistically significant differences between clusters for both variables (maritime and river transport), confirming the validity of the clustering (Table 12).

Table 12. Results of the analysis of variance (ANOVA)
based on the indicator “number of enterprises” in maritime and river freight transport

ANOVA	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Freight road transport	633.711	2	0.510	22	1,242.860	<0.001
Freight rail transport	90.741	2	0.431	22	210.619	<0.001

Source: developed by the author

The obtained results indicate a high level of territorial asymmetry in the development of water transport enterprises in Ukraine, where individual leading regions dominate against the background of the majority of territories with a low level of development in this type of economic activity. This underscores the need to formulate a differentiated regional policy aimed at developing transport infrastructure and stimulating entrepreneurship in the field of water transportation. The results of the cluster analysis are considered to be of practical significance for the

formation of an effective regional logistics policy, which should include the identification of investment priorities in transport infrastructure, the development of strategies for balancing regional development, and the improvement of SMART logistics systems. The integration of the results of cluster analysis of Ukrainian regions based on the indicators “number of enterprises” and “sales volumes” for the main land freight transport modes (road and rail) and warehousing provides grounds for distinguishing 10 groups of regions (Table 13).

Table 13. Matrix of integration of cluster analysis results
based on the indicators “number of enterprises” and “sales volumes” of transport
and logistics infrastructure enterprises (freight road transport, freight rail transport, warehousing)

Clusters	C1(S) (Low Sales Volume)	C2 (S) (Maximum Level)	C3 (S) (Medium Development Level)	C4 (S) (Specialised Cluster)	C5 (S) (High Sales Volume)
C1(N) (Highly Developed Centre)	-	Kyiv	-	-	-
C2 (N) (High Level of Development)	Volyn, Odesa	-	-	-	Lviv
C3 (N) (Medium Level of Development)	Ivano-Frankivsk, Zaporizhzhia, Rivne, Kharkiv, Cherkasy	-	Vinnitsia, Zakarpattia, Kirovohrad, Mykolaiv, Khmelnitskyi	-	Poltava
C4 (N) (Above Average Level)	-	-	-	Dnipropetrovsk	Kyiv
C5 (N) (Low Level of Development)	Zhytomyr, Luhansk, Sumy, Ternopil, Kherson, Chernivtsi	-	Donetsk, Chernihiv	-	-

Note: (N) means clustering of regions by the indicator “number of enterprises”; (S) means clustering of regions by the indicator “sales volume”

Source: developed by the author

Special attention should be paid to the results of clustering Ukrainian regions based on water transport indicators due to its significant role in domestic and especially international freight transportation supporting export-import

operations (Table 14). Based on the cluster analysis conducted, the following regional strategies for the development of TLI are proposed to be implemented during the war period and during the post-war revival of the Ukrainian economy.

Table 14. Matrix of integration of cluster analysis results based on the indicators “number of enterprises” and “sales volumes” of transport and logistics infrastructure enterprises (freight maritime and river transport)

Clusters	CL1 (S) (Zero or Minimal Sales Volume)	CL2 (S) (Medium Sales Volume)	CL3 (S) (High Sales Volume)
CL1 (N) (Zero or Minimal Number of Enterprises)	Ivano-Frankivsk, Zaporizhzhia, Rivne, Kharkiv, Cherkasy, Vinnytsia, Zakarpattia, Kirovohrad, Mykolaiv, Khmelnytskyi, Lviv, Poltava, Kyiv, Volyn, Dnipropetrovsk, Zhytomyr, Luhansk, Sumy, Ternopil, Kherson, Chernivtsi, Donetsk, Chernihiv	-	-
CL2 (N) (Medium Number of Enterprises)	-	Kyiv	-
CL3 (N) (Large Number of Enterprises)	-	-	Odesa

Note: (N) means clustering of regions by the indicator “number of enterprises”; (S) means clustering of regions by the indicator “sales volume”

Source: developed by the author

Strategy C1(N)-C2(S), CL2(N)-CL2 (S) (Tables 13-14) for City of Kyiv (highly developed TLI centre of Ukraine). During wartime, priority tasks include ensuring the resilience of logistics flows (backup routes, multimodality), development of military and humanitarian logistics, decentralisation of warehouses by relocating part of storage capacities outside the city, and development of smart logistics. In the post-war period, it is economically feasible to establish a national logistics hub in the capital with highly developed innovative logistics services based on smart technologies and integration into the Trans-European Transport Network (TEN-T) and European transport corridors.

Strategy C2(N)-C1(S), C2(N)-C5(S), CL3(N)-CL3(S) (Tables 13-14) for Volyn, Odesa, Lviv regions, which have a high level of ITL development, but uneven logistics flows due to the influence of the war. For these regions, it is considered appropriate, first of all, to implement measures to: strengthen their role as western and southern logistics “gates”, develop and modernise border infrastructure, redirect export flows to these regions and more actively use warehouse capacities. In the post-war period, it is economically feasible to form international logistics clusters (cross-border) with the participation of these regions. As V.S. Antonyuk *et al.* (2018) noted, in the conditions of globalisation, clusters lose their territorial identity and become a form of supply chain management that can cover different countries and regions. This is an ideal theoretical basis for creating cross-border clusters. Ukraine is integrated into international transport corridors (4 out of 10 Pan-European transport corridors (3, 5, 7, 9); 4 transcontinental corridors (Europe-Asia, TRACECA, Baltic-Black Sea, Black Sea Ring). This applies to Volyn and Lviv regions – corridors to Poland, Slovakia, Hungary; Odessa region – sea and multimodal corridors to the EU, the Caucasus, Turkey. The objective basis for the creation of international clusters is that international cargo flows intersect in these regions, there are multimodal hubs, and there is potential for infrastructure integration. In particular, Volyn – Yagodyn, the border with Poland; Lviv region – Rava-Ruska, Krakovets, international road and rail corridors; Odessa region – sea ports, the Danube cluster, international sea routes. In the process of forming international clusters, the ports of Odessa, the development and modernisation of intermodal terminals, attraction of foreign investments.

Strategy C3(N)-C1(S), C3(N)-C3(S), C3(N)-C5(S) (Table 13) for regions with average development of TLI: Ivano-Frankivsk, Zaporizhzhia, Rivne, Kharkiv, Cherkasy, Vinnytsia, Zakarpattia, Kirovohrad, Mykolaiv, Khmelnytskyi, Poltava. In wartime, the strategic orientation is to use these regions as transit zones with local optimisation of transportation, redirection of logistics flows to safe regions, and support for the further functioning of basic logistics. In the post-war period, it is considered advisable to create regional logistics hubs based on the modernisation of transport and warehouse infrastructure and the introduction of smart logistics.

Strategy C4(N)-C4(S), C4(N)-C5(S) (Table 13) for regions with above-average development of TLI (Dnipropetrovsk, Kyiv). In wartime, it is considered advisable to use these regions as industrial and logistics centres for the needs of military logistics with the provision of protection of critical infrastructure from attacks by the Russian Federation. In the post-war period, these regions should be used for the construction and development of existing industrial and logistics parks, which will ensure the integration of production and logistics, support for national exports, and expansion of the use of rail transport.

Strategy C5(N)-C1(S), C5(N)-C3(S) (Table 13) for regions with a low level of development of TLI: Zhytomyr, Luhansk, Sumy, Ternopil, Kherson, Chernivtsi, Donetsk, Chernihiv. The most important measures in the strategic aspect are the development of evacuation logistics and the formation of humanitarian corridors, support for local logistics to meet the needs of the population, and minimising losses of logistics infrastructure. For the post-war period, state support for the development and reconstruction of TLI in these regions is especially important; implementation of state investment programs aimed at stimulating business and forming logistics networks.

Thus, the main strategic directions of the development of Ukraine’s transport and logistics infrastructure in wartime are an orientation towards the western regions, decentralisation of logistics, and ensuring flexibility of routes in accordance with the main criteria: safety, speed, and efficiency. In the post-war period of the revival of the country’s transport and logistics infrastructure, the main priorities are defined as integration with the EU, the development of logistics hubs, and the intellectualisation of logistics in accordance with the criteria: integration, innovation, and efficiency to be the main priorities.

● DISCUSSION

The results of the cluster analysis confirm that the development of Ukraine's transport and logistics infrastructure in wartime has a pronounced asymmetric and uneven nature, which is manifested in the significant differentiation of regions in terms of logistics potential and economic activity. The identification of clusters with different characteristics (from a highly developed centre – Kyiv to regions with a low level of development) allowed not only to identify spatial imbalances, but also to substantiate the need to form differentiated regional development strategies.

The results obtained are consistent with the conclusions of T. Charkina *et al.* (2024), who identify key areas for restoring Ukraine's transport infrastructure through the development of multimodal transportation, modernisation of transport corridors and digitalisation. T. Charkina *et al.* (2024) determine strategic directions for the development of domestic transport and logistics infrastructure, which correspond to global trends and are represented by the expansion of multimodal transportation, transport hubs and corridors; attracting public and private investments; optimal tariff policy, modernisation of border crossing points; introduction of information systems and digital technologies. The common understanding is that the transport and logistics system is being transformed towards integration with European markets and strengthening the role of border and port regions. At the same time, unlike the aforementioned authors, who focus on macro-level economic models and stabilisation mechanisms, this study proposes a micro-regional approach based on clustering of regions and allows for detailed strategic decisions depending on the level of infrastructure development.

The results of the study on the development of cargo maritime transport are consistent with the conclusions of M. Hryhorak *et al.* (2022) and O.M. Melnyk (2023). Similarly, the results of the study correlate with the approach of K. Kriachko *et al.* (2024), who consider strategic planning of transport infrastructure as a key tool for ensuring its stability in war conditions. In particular, their emphasis on the need for strategy adaptability, risk-taking, and the use of digital tools is consistent with the regional strategies proposed in this paper. K. Kriachko *et al.* (2024) proposed the introduction of a mechanism for strategic planning of Ukraine's transport and logistics infrastructure in wartime, which includes procedures and rules for developing strategic plans, measures to ensure strategic planning, targeted development strategies, and covers the formation of a strategic vision, defining infrastructure development goals, analysing external and internal factors, adjusting plans taking into account military risks, and monitoring the implementation of strategies. The proposed mechanism is aimed specifically at ensuring the sustainability, efficiency, and innovation of the transport system even in crisis conditions. The authors also pay special attention to the introduction of modern technologies and digital tools. However, unlike their conceptual model, the presented study focuses on empirically substantiating strategies through cluster analysis, which allows increasing the practical relevance of the results.

The results obtained are significantly consistent with the conclusions of M. Stehnei *et al.* (2026), who emphasise the formation of infrastructure asymmetries in the transport and logistics system of Ukraine. M. Stehnei *et al.* (2026)

in their research focus on the emergence of significant asymmetry in the functioning of the transport and logistics system of Ukraine as a result of military operations: asymmetry in the throughput capacity of logistics capacities, structural asymmetry in the use of different types of transport, interregional asymmetries in the development of new centres of logistics activity, asymmetry in the provision and support of transport infrastructure, digital asymmetry in the development of state and private companies, institutional asymmetry in the processes of regulating transport and logistics activities in accordance with EU norms and standards. The clusters identified in this study actually empirically confirm the existence of such asymmetries, in particular between leading regions (Kyiv, Odesa, Lviv regions) and regions with a low level of development. At the same time, if the mentioned authors focus on the characteristics of the types of asymmetries (structural, institutional, digital), then this work expands their approach, offering a tool for their quantitative measurement and grouping of regions.

The results of the study are also consistent with the provisions of S.V. Smerichevska & L.M. Ivanenko (2025) regarding the need to introduce smart technologies, digitalisation and integration of transport systems. S.V. Smerichevska & L.M. Ivanenko (2025) proposed a five-component paradigm for implementing a model for restoring Ukraine's transport and logistics infrastructure based on smart technologies, which is based on: digitalisation and automation (implementation of software complexes, smart monitoring, AI); adaptability (the ability of infrastructure to operate in crisis conditions, including military ones); environmental friendliness (development of "green" logistics solutions, emission reduction, energy efficiency); integration (combination of different types of transport, digital platforms, international standards); safety and cybersecurity. The regional development strategies proposed in the work (in particular for leading clusters and regions with an average level of development) provide for the implementation of SMART logistics, which confirms the commonality of approaches. At the same time, unlike the conceptual model of these authors, this study specifies which regions need the priority implementation of such technologies.

In the context of the study by N.I. Mykhailuk (2023), which identifies the main challenges for the development of transport logistics in wartime (destruction of infrastructure, increased costs, disruption of supply chains), the results obtained fully confirm the above trends. In particular, the identification of clusters with a low level of development directly reflects the consequences of these challenges. At the same time, in contrast to the predominantly descriptive nature of the study by N.I. Mykhailuk (2023), this work provides a quantitative assessment of the consequences of war at the regional level. It is also important to compare it with the study by V.S. Antonyuk *et al.* (2018), which substantiates the cluster model of the development of transport and logistics infrastructure. The idea of forming logistics clusters as a tool for increasing the efficiency of supply chains has found further development in this work. However, if in the mentioned study the cluster approach is considered as an organisational and economic model, then in this work it is used as an analytical tool for diagnosing regional disparities and forming strategies.

Thus, the conducted research complements existing scientific approaches, combining their conceptual provisions with quantitative analysis. Unlike most works that focus on national or industry aspects of the development of transport and logistics infrastructure, this study proposes a methodological approach to the formation of differentiated regional strategies based on cluster analysis. The results obtained confirm that the key characteristics of the current state of the transport and logistics system of Ukraine are: territorial uneven development; concentration of logistics activity in a limited number of regions; increasing role of road transport and border regions; the need to adapt logistics systems to conditions of increased risks. In summary, it should be noted that, unlike existing studies, the proposed approach allows not only to describe the transformations of transport and logistics infrastructure, but also to form practically oriented solutions for its development in the conditions of the war and post-war periods, which determines its scientific novelty and applied value.

● CONCLUSIONS

The war caused an uneven, asymmetric and multidimensional impact on the transport and logistics infrastructure of Ukraine, which differs significantly between regions. The proposed methodological approach to justifying and developing differentiated strategies for the development of the transport and logistics infrastructure of individual regions of Ukraine consisted in grouping regions by the level of development of the transport and logistics infrastructure, taking into account the infrastructure potential and the level of logistics activity in war conditions. Cluster analysis of the logistics infrastructure of Ukraine in a regional context by indicators of “number of enterprises” and “sales volume” of transport and logistics infrastructure enterprises (freight road transportation, freight rail transportation, warehousing, freight water transportation) became the basis for the formation of differentiated strategies for the development of individual groups of regions.

The following regions were identified. Regions that are leaders, characterised by highly developed transport

and logistics infrastructure and its active functioning in wartime (Kyiv city). Regions that are characterised by high development of transport and logistics infrastructure, but have certain imbalances in the distribution of logistics flows due to the impact of the war (Volyn, Odesa, Lviv regions). Regions that are characterised by an above-average level of development of transport and logistics infrastructure and high or specialised logistics activity during the war (Dnipropetrovsk, Kyiv regions). Regions that are characterised by a medium-developed transport and logistics infrastructure and a medium or low level of logistics activity (Ivano-Frankivsk, Zaporizhzhia, Rivne, Kharkiv, Cherkasy, Vinnytsia, Zakarpattia, Kirovohrad, Mykolaiv, Khmelnytskyi, Poltava regions). Regions characterised by a low level of development of transport and logistics infrastructure and low logistics activity (Zhytomyr, Luhansk, Sumy, Ternopil, Kherson, Chernivtsi, Donetsk, Chernihiv). The groups of regions identified as a result of the cluster analysis have different levels of infrastructure destruction, uneven accessibility of ports, corridors and multimodal nodes, differences in throughput and institutional conditions, specific needs of individual industry regions, different intensity of risks and logistics constraints. The proposed differentiated strategies cover regions with similar logistics problems and potential, aimed at optimising investments and state support, as well as increasing the resilience of logistics chains in war and post-war periods. Further scientific research should be focused on the formation of regional logistics policy, clarification of priorities for investment in transport infrastructure, development of strategies for equalizing regional development, and improvement of SMART logistics systems.

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Використання кластерного аналізу транспортно-логістичної інфраструктури України для формування стратегій розвитку регіонів

Тетяна Колодізева

Кандидат економічних наук, доцент

Харківський національний економічний університет імені Семена Кузнеця

61165, просп. Науки 9А, м. Харків, Україна

<https://orcid.org/0000-0001-6247-7179>

Анотація. Війна спричинила нерівномірні та асиметричні зміни в транспортно-логістичній інфраструктурі України, що зумовило необхідність дослідження рівня її розвитку в окремих регіонах, з подальшим їх групування та розробленням диференційованих стратегій стабілізації й подальшого розвитку логістики в період воєнного стану та післявоєнного відновлення економіки. Метою статті був розвиток методичних підходів щодо обґрунтування та розробки стратегій стабілізації та розвитку транспортно-логістичної системи України в воєнний та післявоєнний період з урахуванням асиметричного та нерівномірного впливу війни на регіони. Для досягнення мети було обрано метод кластерного аналізу для групування областей України за потенціалом/функціонуванням їх транспортно-логістичної інфраструктури, рівень розвитку якої оцінювався як дуже високий, високий, підвищений, середній та низький. В результаті проведеної кластеризації та групування областей України за показниками «кількість підприємств» (характеризує логістичний потенціал), «обсяги реалізації підприємств транспортно-логістичної інфраструктури» (функціонування логістики) запропоновано п'ять диференційованих стратегій на період воєнного стану та у післявоєнний період, які охоплюють наступні аспекти стратегічного розвитку логістики регіонів України: інфраструктурний, логістично-операційний, безпековий, інноваційно-технологічний, інтеграційний (міжнародний), економічний, просторово-регіональний та соціально-гуманітарний. До ключових стратегічних напрямів розвитку транспортно-логістичної інфраструктури України в умовах війни віднесено переорієнтацію логістичних потоків на західні регіони, децентралізацію логістичних процесів та забезпечення гнучкості маршрутів відповідно до критеріїв безпеки, оперативності й ефективності. У післявоєнний період пріоритетами відновлення та розвитку транспортно-логістичної системи визначено інтеграцію до європейського транспортного простору, розвиток сучасних логістичних хабів і впровадження інтелектуальних логістичних рішень. Практична цінність дослідження базується на тому, що комплексна реалізація запропонованих стратегій дозволить забезпечити стійкість логістичних систем у воєнний період та створити передумови для ефективного післявоєнного відновлення і інтеграції України у глобальні транспортно-логістичні мережі

Ключові слова: регіональна логістична інфраструктура; логістика; смарт-логістика; кластеризація; стратегічний підхід

Characteristics of organisational structure and management decision-making systems in large shopping centres

Andrii Brynzylo*

Postgraduate Student

International Humanitarian University

65009, 33 Fontanska Doroha Str., Odesa, Ukraine

<https://orcid.org/0009-0006-3287-4994>

Abstract. The study aimed to identify the characteristics of the organisational structure and the management decision-making system in large shopping and entertainment centres in Ukraine under a war economy. The methodology combined a structural-functional analysis of management models, an analysis of the distribution of powers between the strategic and operational levels of decision-making, and a comparative case study of the Gulliver, Lavina Mall and Nikolsky centres in 2022-2025. The study determined that Gulliver, with a total area of 158,000 m² and a lettable area of 108,000 m², operates under a hybrid organisational structure characterised by the strategic centralisation of financial control and the delegation of operations to an external manager, which provides for a guaranteed monthly payment of UAH 17,387,779.06 and the transfer of 70% of revenue. Lavina Mall, with a total area of 170,300 m² and a lettable area of 127,000 m², operates under a centralised group structure with managerial autonomy; in 2024, revenue stood at UAH 1.8 billion, occupancy exceeded 99%, and turnover in 2025 increased by 17%. Nikolsky, with a total area of 106,000 m² and a lettable area of 53,000 m², operates under a functional organisational structure with centralised strategic management and operational authority concentrated within the internal management team; following losses of approximately USD 18 million in 2022, the centre restored footfall to 85% and turnover to 90% thanks to a redistribution of management responsibilities and enhanced coordination between departments. The study recommends the implementation of a multi-level organisational structure with a clear distinction between strategic and operational powers, the formalisation of the roles and responsibilities of those involved in the decision-making process, the breakdown of integrated performance indicators to the level of departments and positions, and the combination of management adaptability with operational resilience. Practical significance of the study is determined by the possibility for owners and management of retail and leisure centres to use the proposed model to optimise the distribution of powers and enhance the stability of management

Keywords: delegation; management; responsibility; manager; effectiveness

● INTRODUCTION

Large shopping and entertainment centres in Ukraine are operating amid increased uncertainty, changing consumer behaviour patterns, alterations to logistics routes, business relocations and fluctuations in the population's purchasing power. Under these circumstances, the management of shopping and entertainment centres exceeds the scope of standard property management and takes on the character of multi-level coordination of the interests of owners, management companies, tenants, contractors and visitors. The operational efficiency of such facilities depends

largely on a clear division of responsibilities, the standardisation of procedures, the transparency of approval processes, and the management system's ability to ensure timely decision-making.

The operation of shopping and entertainment centres in Ukraine in the context of armed aggression necessitates the integration of security measures with ensuring business continuity and maintaining the economic resilience of these facilities. A. Brynzylo (2025) investigated the integration of crisis management into the security strategies

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*Corresponding author (andriybrynzylo@gmail.com)



of shopping and entertainment centres in Ukraine by conducting a documentary analysis of response plans and evacuation protocols, as well as a case study of facilities in various regions of the country. The findings revealed that the set of measures includes the provision of shelters with autonomous power supplies, multi-level warning systems, fire safety infrastructure, staff rotation, data backup and coordination with state services. The challenges faced by the owners and management of such facilities after 2022 were analysed by K. Nesterova & A. Brynzylo (2024), who systematised the risks, examined the dynamics of macro-economic indicators, changes in rental rates and footfall, and outlined the practice of adapting operational and budgetary policies using the example of the “Riviera Shopping City” shopping centre. The study described in detail the algorithm for restoring damaged assets, the structure of the reconstruction budget, the mechanisms of tender procedures, cost control and the implementation of a payment approval matrix, which made it possible to outline a set of management actions in conditions of high uncertainty.

Uneven distribution of retail infrastructure, changing consumer priorities and technological advances necessitate the coordination of strategic and spatial decisions in the development of retail chains. Y. Tymeichuk (2025) examined the conceptual foundations of the strategic and spatial development of retail chains, substantiating the influence of a chain’s life cycle on the choice of distribution models, outlining the stages of spatial evolution from concentration in centres of demand to polycentric and virtual presence, and identifying the role of geographic information system modelling, geomarketing, the cluster approach and omnichannel strategies in enhancing the adaptability and competitiveness of retail chains. The study systematises strategic management tools according to life-cycle phases and outlines approaches to market segmentation, spatial diagnostics and the modelling of location potential, thereby enabling the formation of an integrated model for network development in the context of economic transformations. A. Kostruba (2025) examined the legal and economic aspects of foreign companies’ operations in Ukraine during wartime, analysing national legislation on business registration, the employment of foreign nationals, investment regimes and tax changes, as well as assessing the impact of wartime factors on operational activities, human resource capacity, energy stability and the competitive environment. The study justifies the need to simplify registration procedures, digitise administrative services and introduce e-residency as a tool for attracting entrepreneurs remotely; it also identifies promising areas for post-war recovery (energy, construction, information technology and the agricultural sector).

Destabilisation of Ukraine’s retail enterprises amid the pandemic and military hostilities has been accompanied by disruptions to supply chains, a reduction in the number of retailers, a rise in bankruptcy proceedings, and the need for urgent adaptation of management mechanisms to a high-risk environment. T. Perederii (2024) investigated existing practices in crisis management and sustainable development at Ukrainian retail enterprises, analysing the dynamics of the number of retail outlets between 2018 and 2022, bankruptcy statistics, business activity indicators and the structure of employment, as well as justifying the need

to adopt a systematic approach to financial stabilisation, risk management, cost optimisation and the development of online business formats. The paper identifies areas for improving enterprises’ solvency and proposes measures to enhance strategic planning, a multi-level risk management system, remote working arrangements and staff productivity. Methodological approaches to the strategic assessment of management effectiveness were systematised by A.M. Ivanov (2025), who justified the feasibility of an integrated approach, the Balanced Scorecard, SWOT analysis (strengths, weaknesses, opportunities, threats) in a dynamic context and scenario-based forecasting, whilst also proposing an original three-component model for determining the stimulating impact of strategic management through the calculation of an integrated index. The study tested the model using five enterprises from different sectors in Odessa as case studies, thereby demonstrating the possibility of quantitatively measuring strategic impact through indicators such as profitability, operational model flexibility, the level of digitalisation, innovation initiatives and partnership programmes.

Increasing complexity of managing shopping centres in a competitive environment and in the context of changing consumer expectations has led to the need to formalise a system of performance indicators. The value of using key performance indicators as the basis for strategic planning, as noted by I.I. Koblianska & N.V. Stoyanets (2021), was confirmed by identifying core business processes and success factors and developing a system of generalised key performance indicators (KPIs), grouped by performance, costs, operations and efficiency. The study specified key financial, operational and traffic indicators and demonstrated the possibility of breaking down integrated KPIs to the level of departments and positions. The characteristics of managerial decision-making were analysed, based on the findings of N.O. Kondratenko & M.V. Volkova (2022), by defining the role of hierarchy, information provision and the balance of authority; an algorithm for assessing organisational and managerial potential was also proposed. The paper emphasised the need to combine managerial adaptability with operational resilience and incorporate the qualitative characteristics of staff alongside quantitative indicators.

At the same time, issues relating to the organisational structure of the management of large shopping and entertainment centres, the distribution of powers and the formalisation of decision-making procedures remain insufficiently explored and require further research. The study aimed to develop a model of the management structure and a mechanism for organising the decision-making process in large shopping and entertainment centres in Ukraine under martial law. To achieve this aim, the following objectives were set: to analyse the organisational structures for the management of large shopping and entertainment centres and to characterise their structural and functional elements; to investigate the mechanism for the distribution of powers and responsibilities between the owner, the governing body and local management at the strategic and operational levels of managerial decision-making; to formulate recommendations for optimising the management structure and the delegation of powers as tools for enhancing productivity and managerial resilience under martial law.

● MATERIALS AND METHODS

The study was of a theoretical and empirical nature and covered the period from 2022 to early 2026. This period was selected due to significant transformations in the management of shopping and entertainment centres in Ukraine, driven by military risks, changes in ownership structure, crisis phenomena and the gradual recovery of business activity. The year 2022 reflected a phase of sharp destabilisation and forced adaptation; 2023-2024 represented a stage of structural review of management models and stabilisation of operational activities; whilst 2025 saw the formation of updated management structures and financial results, enabling the dynamics of change to be traced across the full “crisis–adaptation–stabilisation” cycle. The year 2026 was used to incorporate court rulings and management transformations recorded as at the start of the year. Pre-war and pandemic indicators were used as a benchmark for interpreting changes in 2022-2025 and were not included in the main empirical period of the study.

In the theoretical section, the method of systematisation and structural-functional analysis was applied to generalise approaches to the classification of organisational management models – functional, divisional and hybrid – according to criteria such as the principle underlying the structure’s design, the level of centralisation, responsibility for financial performance, flexibility of response and the need for coordination mechanisms. The analysis was based on studies by A.S. Gutterman (2023) and Y.-M. Wei (2025), as well as by Ingentis (2025) generalisations regarding divisional organisational structure, which were selected for their conceptual consistency, relevance and practical focus in the field of corporate governance.

A model of multi-level managerial decision-making, divided into strategic and operational levels, was examined separately. To this end, the method of modelling managerial processes and institutional analysis was employed, the use of the Responsible, Accountable, Consulted, Informed (RACI) matrix as a tool for interpreting the distribution of roles within multi-level management structures. The methodological framework was based on the research by R.D. Sushanda & D. Pratami (2021), J. Rosiak (2025) and a review of the application of RACI in budget management (RACI matrix for..., 2025). Within the scope of this study, the RACI matrix was not reconstructed as an empirically validated framework for each entity based on internal regulations or job descriptions, access to which is restricted. It was used as a generalised analytical model that can be used for allocation of responsibilities between the main management entities – owners, asset managers and the operational team – to be structured and interpreted. However, the specification of operational roles is subject to methodological limitations due to the lack of access to the properties’ internal management documentation. The application of RACI in this format systematised interaction between management levels and explained mechanisms for allocating responsibility in large retail and leisure centres within the context of a wartime economy, without claiming to provide a complete reconstruction of internal management regulations.

The empirical section was based on the case study method and a comparative analysis of three major shopping centres in Ukraine – Gulliver, Lavina Mall, Kyiv and Nikolsky. These centres represent different models of ownership and

management: Gulliver operates under a hybrid model, with operations outsourced to an external asset manager; Lavina Mall operates within the centralised corporate structure of a property development group with in-house management; and Nikolsky operates under a functional model, with decision-making powers concentrated within an in-house team. The scale of the centres (106,000-170,300 m²) presents challenges in terms of coordination, the number of tenants and the multi-tiered nature of management. The extent of the impact of the war varied: Nikolsky suffered direct damage and a temporary suspension of operations in 2022; Gulliver operated under managerial and financial constraints; Lavina Mall continued to operate without interruption. This provided a range of organisational configurations for analysis.

For Gulliver, a method of documentary analysis of open sources was applied to examine the gross building area (GBA), gross lettable area (GLA) and the structure of the sites, as well as an institutional analysis of ownership transformation and the transfer of management (Matyash, 2025). The tenant mix and average rental rates were examined using content analysis and economic descriptive analysis of open-source data, in particular, advertisements for the letting of commercial premises in the Gulliver business centre, as well as publications in specialist media regarding the preparation of the property for opening following the period of restrictions (AIN, 2025). This made it possible to assess the tenant mix, the range of rental rates, the commercial attractiveness of the property and its market positioning based on publicly available information. The period during which the shopping centre operated under crisis conditions and the stages of resuming operations following the shutdown were analysed using chronological and situational analysis (Kostenko, 2026), which traced management decisions made under conditions of high uncertainty and determined their impact on the continuity of operational activities.

A separate institutional and legal analysis was conducted of Decision of the Commercial Court of Kyiv No. 134081967 (2026) and the financial obligations of the previous owner – “Tri O” Limited Liability Company. To this end, the methods of legal analysis, analysis of case law and elements of the regulatory framework, as well as the method of financial risk analysis, were applied. The study examined court decisions relating to asset management, the mechanism for transferring property to the Asset Recovery and Management Agency (ARMA), and the financial obligations of the previous owner. An analysis of legal disputes, debt obligations and changes in the ownership structure identified their impact on the transformation of the shopping centre’s management model, the revision of the distribution of powers among stakeholders and the strengthening of strategic control by the new owners.

For Lavina Mall, a method of structural analysis was applied to assess the complex’s GBA and GLA, the configuration of anchor tenants and the functional mix of retail spaces, based on the company’s publicly available corporate materials regarding floor area and tenant structure. This approach made it possible to determine the property’s positioning, the balance between retail, entertainment and service areas, and to assess the impact of the tenant mix on the generation of stable footfall and rental income. The complex’s management structure was analysed using organisational and institutional modelling methods. This

identified the level of centralisation of management functions within the development group, the role of the local Chief Executive Officer (CEO), and the mechanisms for strategic control over financial indicators.

A financial and dynamic analysis was conducted using a method of horizontal comparison of revenue, profit and occupancy rates for the years 2024-2025 (Results of 2025..., 2025). This approach made it possible to assess the stability of cash flows, the efficiency of leased space utilisation and the complex's ability to maintain a high occupancy rate given the limited scope for extensive expansion. In addition, a functional analysis of the coordination between the leasing and marketing departments was performed, which made it possible to assess the degree of integration of commercial and communication strategies in generating footfall and revenue. An analysis of the dynamics of repeat visits on social media for the period 2019-2024 was conducted using the comparative trend analysis method (Dudka, 2025), which made it possible to track changes in audience loyalty and assess the effectiveness of marketing tools in the long term.

A crisis-adaptive analysis combining structural and institutional approaches was applied to the Nikolsky shopping centre. The GBA, GLA, complex format and tenant structure were analysed based on publicly available materials, in particular a journalistic review of the Nikolsky shopping centre's operations within the commercial property market (Symonenko, 2022), which was used for an assessment of the property's scale, its functional configuration and its dependence on anchor brands. The management structure was examined through an institutional analysis of the role of the Budhouse Group as a strategic centre, which determined the level of centralisation and the mechanisms of coordination between the group and local levels. The consequences of the missile strike and the recovery process were examined using situational and chronological analysis, whilst the dynamics of occupancy rates and footfall after 2022 were analysed using comparative temporal analysis to assess the effectiveness of crisis management measures (Ukrainian Council of Shopping Centres, 2023). However, open-source data do not contain systematic information on the operational and management indicators of the Nikolsky shopping centre for 2024-2025; consequently, a detailed analysis of this period was not conducted as part of this study.

Following the collection and systematisation of empirical data, a comparative analysis was conducted to compare the organisational management models of Gulliver, Lavina Mall and Nikolsky. KPIs were used in the study to compare the organisational models. These included occupancy rates, footfall trends or their proxy indicators, revenue or turnover per square metre of lettable area (where data was available), the proportion and stability of anchor tenants within the tenant mix, as well as financial performance indicators for the property. The analysis was conducted exclusively based on publicly available indicators; internal corporate KPI systems and the properties' Business Intelligence platforms were not analysed in the study due to limited access to management reporting. This

approach identified differences between centralised and hybrid management models and traced their relationship with financial and operational performance.

The rationale for the areas of improvement in the organisational structure was established using the methods of management modelling and structural design. The obtained results were logically generalised and compared with theoretical principles regarding functional, divisional and hybrid models. This formed practical recommendations for optimising the distribution of powers, institutionalising strategic control and enhancing the operational autonomy of local management within a multi-level management system. A limitation of the study stems from the use of open public data and case studies of three facilities, which restricts the possibility of generalising the results to the entire population of large shopping centres in Ukraine.

• RESULTS

Principles for developing organisational management models for large retail and leisure centres

Formation of the organisational management structure is determined by the scale of the property, the complexity of the letting's portfolio, the multifunctional nature of the space, and the need to integrate strategic and operational decisions. The functional model involves grouping activities by function (lettings, operations, marketing, finance, security), which report to the property manager or the management company. Within this configuration, decision-making is concentrated at the top management level, whilst departments perform specialised tasks following approved regulations. This model ensures standardisation of procedures, transparency in budget control and the unification of policies regarding tenants and contractors. At the same time, a high degree of centralisation may limit the speed of response to local market changes and create additional coordination barriers (Guterman, 2023).

The divisional model is based on the principle of relative autonomy for individual organisational units, which may be grouped by business activity, revenue stream or geographical area. In such a system, divisional managers are accountable for the financial performance of their segment, whilst support functions may be either centralised or partially delegated. This approach enhances flexibility and adaptability but requires a clear system of internal control and a clear delineation of responsibilities (Ingentis, 2025).

The hybrid model combines features of the two previous configurations and involves the centralisation of strategic functions (asset management, investment planning, tenant-mix policy) whilst delegating operational powers to the property level. This model maintains control over long-term decisions whilst ensuring operational efficiency in resolving day-to-day issues. This configuration is often used in conditions of heightened uncertainty, when it is necessary to combine corporate governance standards with local adaptation (Wei, 2025). To systematise the differences between these models, their key parameters have been summarised (Table 1).

Table 1. Comparative analysis of organisational management models for large shopping centres

Evaluation criteria	Functional model	Divisional model	Hybrid model
Principle of structure's design	By functional areas	By business segment or facility	Combination of functional and segment-based approaches

Table 1, Continued

Evaluation criteria	Functional model	Divisional model	Hybrid model
Level of centralisation	High	Average or low	Strategic centralisation, operational decentralisation
Responsibility for financial performance	Consolidated at management level	Assigned to divisions	Shared between head office and local management
Flexibility of response	Limited	High	Balanced
Need for coordination mechanisms	Regulations and vertical links	System of internal agreements and KPIs	Matrix of responsibilities and multi-level reporting

Source: compiled by the author based on A. Gutterman (2023), Ingentis (2025), Y.-M. Wei (2025)

As the classification shows, the choice of organisational model is determined not only by the size of the entity, but also by the owner's strategy, level of functional diversification, degree of risk and the presence of a network structure. Thus, the classification of management models provides a methodological framework for further analysis of the coordination of sub-units and the assessment of the performance of organisations within the scope of an empirical study. The multi-level decision-making model involves distinguishing between the strategic and operational levels of management, defining their functional scope and formalising accountability mechanisms. This approach ensures a balance between centralising key areas of development and delegating authority to ensure a rapid response to changes in the environment. The strategic level encompasses decisions that have a long-term impact on the organisation's financial stability, positioning and investment attractiveness. These include defining the development concept, shaping the revenue structure, approving investment programmes, asset management policy, and reviewing cooperation formats with partners and clients. Such decisions are characterised by a high degree of uncertainty and require analytical justification, financial modelling

and risk assessment. Responsibility for strategic decisions is typically concentrated at the level of the owner or senior management, who are accountable for achieving integrated performance indicators (Slobodeniuk *et al.*, 2024).

Operational level encompasses day-to-day management activities aimed at ensuring the stable functioning of business processes. These include decisions on concluding and managing contracts, planning marketing activities, organising technical maintenance, controlling costs, managing staff and ensuring security. Operational decisions have a short-term horizon and are characterised by a higher degree of standardisation in procedures. Delegating authority at this level increases responsiveness and reduces the workload on the strategic management centre (Blackmore, 2025).

The efficiency of a multi-level model depends on a clear delineation of responsibilities and the formalisation of the roles of those involved in the decision-making process. One tool for structuring responsibilities is the RACI matrix. Using this matrix helps to avoid duplication of functions, conflicts of authority and delays in approval. Table 2 presents a generalised RACI matrix for strategic and operational decisions.

Table 2. Generalised RACI matrix for multi-level decision-making

Type of solution	Owner	Director	Head of departments
Approval of investment programme	A	R	C
Review of strategic development policy	A	R	C
Formation of annual budget	A	R	C
Conclusion of key contracts	C	A	R
Conducting a marketing campaign	I	A	R
Existing operating expenses	I	A	R
Decisions on safety and risks	C	A	R

Note: R – Responsible; A – Accountable; C – Consulted; I – Informed

Source: compiled by the author based on R.D. Suhanda & D. Pratami (2021), J. Rosiak (2025), RACI matrix for budget management (2025)

The proposed model demonstrates that strategic decisions have a defined "Accountable" party, whilst "Responsible" duties may be delegated to lower levels. At the operational level, accountability is more often assigned to the head of the organisation, whilst execution is entrusted to functional departments. This configuration helps to maintain strategic control over key areas whilst ensuring operational efficiency. Consequently, the multi-level management decision-making model is based on a clear distinction between strategic and operational functions, the delegation of authority and the formalisation of roles through tools such as RACI. Its application enhances process transparency, reduces approval times and ensures that decisions align with the organisation's overall development strategy.

A review of approaches to the classification of organisational management models and an analysis of the multi-level decision-making system have shown that management effectiveness is determined by a combination of the structure of authority and coordination mechanisms. Functional, divisional and hybrid models differ in terms of their level of centralisation, nature of responsibility and degree of flexibility, which determines their application depending on the development strategy, scale of operations and level of risk. The distinction between the strategic and operational levels of management ensures a balance between long-term objectives and operational adaptation to changes in the environment. Use of tools for formalising accountability, in particular the RACI matrix, helps to

increase the transparency of management processes, the clarity of role allocation and the consistency of decisions within the overall management model.

Organisational models and decision-making in large shopping centres

The Gulliver multi-purpose complex in Kyiv is one of the capital's largest mixed-use developments, combining retail, leisure and office spaces. Its GBA is 158,000 m², of which 38,180 m² is occupied by the shopping centre, whilst the GLA is 108,000 m². Facilities include a car park with 1,320 spaces, a fitness centre and a cinema. This configuration creates a complex organisational model that requires coordination between the retail and office segments. The complex opened in September 2013 following a lengthy construction period (2003-2012) (Hmarochos, 2018). Key changes took place in 2025, when ownership of the asset was transferred to a consortium of state-owned banks – Oschadbank (80%) and Ukreximbank (20%) (Gordiychuk, 2025). The transfer took place following Decision of the Commercial Court of Kyiv No. 134081967 (2026), involving the previous owner, "Tri O" LLC. In January 2025, ARMA selected the management company for the "Millennium" business centre through an open tender, offering a fee of 0.15% of revenue to manage the asset, valued at UAH 7.6 billion (Matyash, 2025). Thus, after 2025, Gulliver's organisational model became a centralised structure with elements of a hybrid configuration, where strategic control is exercised by the owners, whilst operational management is delegated to a professional manager. The tenant mix comprises over 250 brands, with anchor tenants accounting for around 37% of the floor space (AIN, 2025). By 2022, footfall stood at 14,000-15,000 people per day. In 2024, the office section was approximately 75% occupied, meaning that 9 out of 34 floors remained vacant (Ponomarenko, 2024). The average rental rate for the retail section is around 32.8 USD/m², and for offices it is 25 USD/m² plus a service charge of 8USD/m². However, actual rates are subject to individual agreements and may be adjusted depending on the location of the premises, the format and the tenant's status.

In 2022, the Gulliver shopping and entertainment centre operated in conditions of a sharp decline in the city's economic activity following the start of the Russian full-scale invasion. In the first weeks of the war, the shopping and entertainment centre temporarily suspended operations, along with most commercial premises in Kyiv. Operations were partially resumed on 1 April 2022, but work continued on a limited basis in accordance with martial law: reduced opening hours, suspension of activities during air raid alerts, and the evacuation of visitors to shelters (The Gulliver shopping..., 2022). The complex's underground car park (level P-1) was used as a temporary shelter for visitors, tenants and staff. During this period, the centre's management focused on maintaining basic operational processes, ensuring visitor safety, and gradually resuming tenants' operations.

The crisis of 2025 highlighted the peculiarities of the decision-making system. On 30 October 2025, the complex was completely closed due to the previous owners having shut down the building services, which posed a safety risk. The decision to close the complex was taken immediately at the level of the banking consortium, with tenants

being granted a rent holiday. As early as 12 December 2025, the emergency commission approved the partial reopening of the lower floors, and on 1 February 2026, operations were fully resumed (Kostenko, 2026). The speed with which these decisions were taken demonstrates the high degree of centralisation in strategic management and the ability of a consolidated management structure to act in conditions of uncertainty. In 2023, the revenue of "Tri O" LLC amounted to UAH 906.5 million (Sharipov, 2025). Following the transfer of the asset to ARMA's management in 2024, the financial parameters were defined not as the projected revenue from the asset, but as a guaranteed minimum payment to the state budget. In particular, the terms of the open tender on the Prozorro platform stipulated that the manager must ensure minimum monthly budget receipts of UAH 17,387,779.06 as a guaranteed payment, as well as transfer 70% of the revenue generated from managing the property (Institute of Legislative Ideas, n.d.). Given these characteristics, the Gulliver organisational model can be described as a hybrid model characterised by centralised strategic control. Strategic management is concentrated in the hands of the owners, whilst operational management is delegated to a professional manager. The crisis events of 2025 demonstrated that this model ensures a rapid response whilst maintaining control over key financial flows. At the same time, limited transparency in reporting and a high degree of dependence on the owners' decisions shape the specific nature of coordination between departments and the distribution of powers within the group.

Lavina Mall is one of the capital's largest shopping and entertainment centres, with a strong focus on combining retail and entertainment. The GBA is approximately 170,300 m², whilst the GLA is 127,000 m². The centre opened on 1 December 2016 following several delays to the launch and has developed in line with the original concept without any radical redesigns. Following the opening, entertainment areas were introduced in phases, including a family amusement park and the expansion of the entertainment offering; however, the format has remained stable and adheres to the hybrid retail + entertainment model. The complex comprises over 400 shops, a food court and a Food Hall with more than 50 restaurants, Ukraine's largest multiplex cinema (13 screens including IMAX), as well as the 20,000 m² Galaxy family amusement park. Anchor tenants account for a significant share – approximately 40-50% of GLA. Key operators include Auchan, Silpo and Epicentre. Fashion brands such as H&M, the Inditex Group and LPP was also substantial. Additional traffic drivers include Leroy Merlin and the Multiplex cinema. These operators generate the bulk of footfall and determine the property's commercial appeal. The high concentration of anchor tenants in key areas ensures a stable level of footfall, meaning that the projected number of visitors is maintained throughout the year without sharp seasonal or crisis-related fluctuations, which can be used for the maintenance of premium rental rates.

The property is owned by the Azerbaijani businessman Vagif Aliyev through Lavina Mall LLC. Lavina Mall is part of the Mandarin Plaza Group property development group (Mandarin Plaza Group..., 2024). The group also manages assets such as Mandarin Plaza, Blockbuster Mall (partially), Ocean Plaza and the Ocean Mall projects.

At the same time, day-to-day operational management is conducted through Lavina Shopping Centre LLC, without the involvement of an external manager or a separate asset manager (Maranchak, 2023). The CEO of Lavina Mall is Dmytro Lashin, who also serves as the Chief Operating Officer of Blockbuster Mall. Public sources indicate a high degree of autonomy for the local management: the director comments on strategic decisions, implements infrastructure initiatives (launching a 4 MW solar power station, creating family parking spaces, updating the tenant mix) and approves substantial marketing budgets (Results of 2025..., 2025). There are no indications in open sources of external control over strategic decisions or their approval at group level, which suggests a centralised yet autonomous operational model.

Financial indicators confirm the effectiveness of the chosen organisational structure. In 2024, the revenue of Lavina Shopping Centre LLC was 1.8 billion UAH, and for the first half of 2025, it stood at UAH 774 million, with a net profit of UAH 44.7 million (All Retail, 2025). The occupancy rate at the end of 2025 exceeded 99%, meaning the vacancy rate was less than 1%. After 2022, the centre recovered to its pre-war levels within two years and achieved a complete absence of vacant space. In 2025, the tenant mix was refreshed with the addition of 35 new brands, which contributed to a 17% increase in tenants' turnover and a shift towards the middle+/premium segment (Results of 2025..., 2025). Leasing and marketing functions are coordinated centrally under the leadership of the Chief Executive Officer. The official website has served as a ROPO platform since 2021, reflecting the integration of digital marketing with in-store footfall (Osiiyk, 2021). Large-scale marketing campaigns, audience research (2019-2024), infrastructure projects and active communication on social media are fostering stable guest loyalty: the repeat visit rate has risen from 57% in 2019 to 75% in 2024, and half of the guests visit the centre 2-3 times a week (Dudka, 2025).

Lavina Mall's organisational model is therefore characterised by centralised management within the development group, whilst the local CEO retains a high degree of operational autonomy. The combination of a stable ownership structure, an active marketing policy, a diversified tenant mix and a well-developed entertainment component ensures almost full occupancy and strong financial performance. Compared with other properties, the Lavina Mall model demonstrates a high degree of integration between strategic and operational decisions at the level of a single management centre, which facilitates a rapid response to market changes and helps maintain a competitive position in the capital. Nikolsky is one of the key retail and entertainment centres in Eastern Ukraine, operating in Kharkiv amidst heightened security risks. Its GBA is approximately 106,000 m², whilst its GLA is 53,000 m² (The largest dome..., 2023). The complex is defined as a mixed-use development, combining shopping arcades, entertainment facilities and food courts. The tenant mix comprises over 150 brands, of which 80 outlets were operational as of November 2022 (Symonenko, 2022).

The property is owned by "NIKOLSKY Shopping Centre" LLC, which forms part of the Budhouse Group property development group led by Anatoliy Shkriblyak. Investment in the project amounted to approximately USD 124 million.

Management is performed centrally through the Budhouse Group; no separate management company or independent asset manager has been appointed. The company's CEO is Yuriy Volodymyrovych Kolbasynskyi, although strategic decisions are coordinated at the group's senior management level, in particular by the Chief Operating Officer, Maksym Gavryushin. This structure indicates a high degree of centralised management (Maksym Gavryushin, Budhouse Group..., 2021). Anchor tenants include Silpo, H&M, brands from the Inditex and LPP groups, and the Multiplex cinema. The entertainment offering comprises a cinema, a food court, restaurants and children's play areas, which generate steady footfall (Symonenko, 2022).

On 9 March 2022, the facility sustained significant damage as a result of a missile strike: the roof, dome, façade elements, ventilation equipment and part of the structural framework were destroyed. Direct losses were estimated at approximately 18 million USD, whilst indirect losses were estimated at up to USD 150 million. The centre temporarily suspended operations. Decisions regarding the closure and subsequent restoration were taken at Budhouse Group level. Repair work began just three weeks after the strike; on 17 June 2022, the basement level reopened, followed by floors 1-3 in autumn 2022, and the full restoration of the damaged areas was completed on 1 December 2023. The grand reopening in its revamped format took place in February 2026. Following the strike, security measures were increased: regular evacuation drills were introduced, consultations were held with the State Emergency Service of Ukraine, a shelter was fitted on the second basement level of the car park with the capacity to evacuate within 2-3 minutes, a secure entrance from the underground was organised, and operational procedures during air raid alerts were revised. Some of the underground areas operated on a reduced basis. Consequently, the decision-making system took on a crisis-adaptive character: strategic control remained centralised, whilst tactical decisions regarding operating modes, evacuation and partial reopening were delegated to local management (Ukrainian Council of Shopping Centres, 2023). Occupancy and footfall trends since 2022 have shown a gradual recovery. In November 2022, around 32% of retail space on the open-plan floors was occupied. By December 2023, there was no vacant space left (with the exception of temporarily closed Inditex and H&M stores); footfall had recovered to 85% of pre-war levels, and turnover to 90%. Nikolsky's organisational model is characterised by centralised management through the Budhouse Group, with limited autonomy for local directors on strategic matters. Following the outbreak of the war, the model retained its centralised structure but became more adaptive thanks to operational decisions regarding recovery, security and tenant support. Thus, the management of the Nikolsky shopping centre can be classified as crisis-adaptive: it combines a strategic concentration of authority with rapid tactical responses to external threats, hence the facility could resume operations in a wartime environment.

Comparison of management systems and a justification for areas of improvement in the organisational structure

To systematise the results of the case study of three shopping and entertainment centres – Gulliver (Kyiv),

Lavina Mall (Kyiv) and Nikolsky (Kharkiv) – it is advisable to compare them in terms of scale, ownership structure, management model, level of centralisation of

decision-making, crisis adaptability and operational indicators. A summary of the key characteristics is presented in Table 3.

Table 3. Comparative analysis of the organisational management models of Gulliver, Lavina Mall and Nikolsky

Criteria	Gulliver (Kyiv)	Lavina Mall (Kyiv)	Nikolsky (Kharkiv)
Format	Mixed-use (shopping centre + business centre)	Retail + entertainment	Mixed-use (trade halls + entertainment)
GBA	≈157,400-158,000 m ²	≈170,300 m ²	≈106,000 m ²
GLA	≈108,000 m ²	127,000 m ²	53,000 m ²
Year of opening/reopening	2013; full renovation in 2026	2016	2021; renovation 2022-2023
Ownership	Consortium of state-owned banks (Oschadbank 80%, Ukreximbank 20%)	Vagif Aliyev (Mandarin Plaza Group)	Budhouse Group
Management model	Hybrid: strategic control by the owners + an operational manager	Centralised, group-based structure with a high degree of autonomy for the local CEO	Centralised, group-based, crisis-adaptive
Enrolment figures (2024-2025)	Offices ≈75%; retail data is limited	>99% (vacancy rate <1%)	-
Proportion of anchor tenants	≈37% of areas	≈40-50% GLA	≈30-40% GLA
Crisis response	Closure: October 2025; full restoration: February 2026	After 2022 – a rapid recovery and renewal of the tenant mix	Missile strike, March 2022; phased reopening and repairs
Financial targets	Minimum guaranteed payment to the budget will be UAH 17.4 million per month in 2025	Revenue of UAH 1.8 billion in 2024	Investment: USD 124 million; losses in 2022: ≈ 18 million USD (direct)

Source: compiled by the author

A comparison of organisational models during the period of martial law revealed differences in the organisational configuration of management, which correlated with the trends in operational indicators during that period. The highest results in terms of occupancy rates (over 99% in 2024-2025), stability of the tenant mix (renewal of 35 brands without an increase in vacancy rates) and a 17% increase in tenants' turnover were demonstrated by the centralised model of Lavina Mall, with a high degree of autonomy for the local CEO. This demonstrates effective coordination between the leasing, marketing and financial control functions within a single decision-making centre. Gulliver's hybrid model, with a separation of strategic control and delegated operational management, has ensured the stability of financial flows (a guaranteed payment of UAH 17.4 million per month in 2025); however, occupancy figures for the retail segment remain partially undisclosed, which limits a full assessment of revenue per square metre. Coordination in this model is institutionally formalised but less flexible due to multi-level approval processes. For Nikolsky, a centralised group model with crisis-adaptive tactical decisions ensured a recovery in footfall to 85% of pre-war levels and turnover to 90% by the end of 2023. At the same time, absolute figures for footfall and revenue per square metre are not publicly available, which has prevented a full comparative assessment of financial performance.

For Gulliver, the key issue is the excessive centralisation of strategic control and the multi-tiered decision-making process involving state-owned banks, ARMA and the external administrator. This structure hampers operational efficiency and creates a risk of delays in negotiations with tenants. It would be advisable to introduce clearly defined limits on the autonomy of the managing company's director regarding the revision of lease terms, tenant mix rotation and marketing budgets within the

agreed financial framework. This would shorten the decision-making cycle without compromising the owners' strategic control. At the same time, creation of a permanent strategic committee involving representatives of banks and the asset manager is recommended; this committee would approve medium-term profitability targets and performance indicators, rather than having to approve each operational initiative individually. At Lavina Mall, the management structure is characterised by a high degree of centralisation within the development group and considerable autonomy for the local CEO. The main shortcoming lies in the potential reliance on the individual management decisions of the CEO and the absence of a publicly documented system of multi-level accountability. To mitigate management risks, it would be advisable to formalise strategic performance evaluation procedures through an internal advisory board or the group's investment committee, which would conduct regular audits of KPIs (occupancy, revenue per square metre, cost structure, and return on investment for marketing campaigns). This would maintain decision-making speed whilst institutionalising control mechanisms and long-term planning, which is particularly relevant in conditions of high occupancy rates and limited scope for extensive growth.

For Nikolsky, the main shortcoming lies in the combination of centralised group control with the need for a rapid response to security risks in the frontline region. Despite the effectiveness of the crisis management decisions taken in 2022-2023, the model remains dependent on decisions made by the Budhouse Group's senior management. It would be advisable to expand the local director's powers regarding tactical budgeting, operating procedures and short-term lease terms within the framework of the approved crisis regulations. Formalising such procedures in the form of a separate business continuity

protocol would help reduce management delays in the event of recurring security threats. A common recommendation for all three sites is the implementation of an integrated digital monitoring system with standardised performance indicators. The use of BI platforms accessible to both the strategic centre and the local team will ensure transparent analytical accountability and reduce the need for manual approval of operational decisions. This is particularly relevant for Gulliver, where the multi-tiered ownership structure requires systemic transparency, and for Nikolsky, where the speed of decision-making is critically dependent on real-time analysis of footfall and costs. A further area for optimisation is the institutional separation of asset management and property management functions at each property. For Gulliver, this will reduce the burden on state-owned owners; for Lavina Mall, it will enhance the formalisation of strategic control; and for Nikolsky, it will consolidate long-term planning at group level whilst maintaining tactical autonomy at the local level. Consequently, the optimisation of the management structure should be conducted with due regard to individual management gaps: for Gulliver – reducing excessive centralisation and accelerating approvals; for Lavina Mall – institutionalising strategic control without losing flexibility; for Nikolsky – strengthening local autonomy within the framework of crisis regulations. Implementing these recommendations will help to boost productivity, reduce decision-making times and strengthen the resilience of organisational models in an environment of heightened uncertainty.

● DISCUSSION

Transformation of the retail sector, driven by digitalisation, changes in consumer behaviour and institutional shifts, has led to a rethinking of both the spatial and managerial models for the development of shopping centres. R. Zhou *et al.* (2024) examined changes in consumption patterns through the lens of spatial optimisation within the “new retail” concept. Using the analytic hierarchy process – geographic information system, mobile data and a system of spatial indicators, the authors assessed the suitability of locations, considering the growth in online orders, the diminishing importance of physical distance and the increasing role of fast delivery. In this study, the rationale was different: behavioural changes did not form the basis for revising territorial policy but were viewed as a factor requiring the improvement of internal management structures, the redistribution of powers and the formalisation of decision-making procedures.

A similar difference in focus was demonstrated by a comparison with the study by R. Sánchez-Gómez & L. Vázquez-Suárez (2024). The authors analysed the adaptation of shopping centres’ business models to omnichannel strategies, their reimagining as social spaces, and the development of the customer experience within a European context. In contrast, this study shifted the focus from market interactions to the internal governance structure: the relationship between the roles of the owner and the management company, the centralisation of strategic functions, and the regulation of responsibilities. Both approaches recognised the need for flexibility but interpreted it differently – as a marketing adaptation or as an institutionally structured management system.

P. Huang (2024) also emphasised the importance of structural changes, albeit in the context of the digital modernisation of traditional retail in China. The author focused on the challenges of integrating online and offline channels, data management and technological barriers. In this study, issues of digitalisation were not central; instead, the analysis covered the distinction between strategic and operational levels, delegation mechanisms and tools such as RACI as a means of ensuring transparency in management processes. Another dimension of transformation was demonstrated by the study by C.H. Tse *et al.* (2024), in which institutional changes in state-oriented capitalism in China were examined as a factor shaping the strategies of multinational companies. Legitimacy, the protection of property rights and industrial policy determined decisions regarding investments and partnerships. In this study, the institutional context was also significant, but at the micro-level – through the division of responsibilities between the owner and management of large shopping centres in Ukraine and the coordination of strategic and operational functions. A similar contrast was evident when compared with H. Guo & J. Kim (2023), who analysed the innovation of the “New Retail” business model and channel integration using the example of the Chinese “Super Species” format. Whilst their study examined the transformation of the value creation model, this paper focuses on the organisational management structure within the context of Ukraine’s wartime economy. M. Zeng & Y. Kim (2025) examined the centralisation of regulatory powers in China’s digital platform sector, in particular the mechanism of “domain-specific centralisation” and the increase in state control. In this study, the concept of centralisation took on a different meaning: it referred to the intra-corporate distribution of strategic and operational functions within specific properties. Thus, despite a shared focus on transformational processes and the role of institutional factors, the difference lay in the scale and analytical perspective – ranging from the state and sectoral levels to that of an individual organisation and its management structure.

An examination of the interaction between business and governance systems across different research traditions has demonstrated just how differently the very nature of governability can be interpreted. For instance, L. Zhang (2025) analysed the governance regime of large digital platforms in China, elaborating on the “market in the fragmented state” model using Alibaba as an example. The conclusions concerned the balance between stimulating growth and regulatory restraint on the part of the state; in other words, they had a distinct macroeconomic and political-economic dimension. In this study, the concept of centralisation was also central, though not in the context of state policy, but within the corporate structure of large shopping centres in Ukraine, where the focus was on the distribution of powers between the owner and management and the formalisation of multi-level decision-making. Another aspect of the problem of managerial decision-making was explored in a study by R. Salehzadeh & M. Ziaeeian (2024), where a systematic review found that the application of multi-criteria methods in the field of HR decision-making (Analytic Hierarchy Process, Fuzzy Analytic Hierarchy Process, Analytic Network Process) improved the soundness of staff selection, performance

appraisal and strategic planning of HR policy. The study concluded that formalising criteria and weights helped to reduce subjectivity and improve the quality of management outcomes. This study also confirmed that a clear structuring of the decision-making process contributed to greater manageability and transparency; however, this result was achieved in a different way – by distinguishing between the strategic and operational levels and defining responsibilities among management participants. The RACI concept was applied as an analytical tool for structuring management functions to interpret the distribution of roles. Thus, both studies demonstrated the positive effect of formalising management procedures; however, whilst in the study by R. Salehzadeh & M. Ziaeiian (2024) the result manifested in improved accuracy of HR decisions, in this study it was reflected in increased consistency and speed of decision-making within the organisational structure of the shopping centre.

The study by A. Aquilino-Navarro *et al.* (2022), which focused on management control systems in shopping centres, was more closely related to the topic at hand. The authors analysed budgetary control, the role of the managing director and the impact of leadership style on the centre's performance. In this study, management control was also viewed as a tool for ensuring manageability; however, the focus shifted from the individual leadership style to the configuration of the organisational structure – functional, divisional or hybrid – and the mechanisms of coordination between the strategic and operational levels. A similar difference in perspective was demonstrated by a comparison with M. García-Nieto *et al.* (2025), who analysed the effectiveness of cooperation between shopping centre management and tenants within the framework of customer relationship management strategies. Whilst their focus was on coordinating actions to increase footfall and customer loyalty, this study considered coordination more broadly – as an element of corporate governance that ensures a balance between the centralisation of strategic decisions and the delegation of operational functions.

The behavioural dimension of the transformation of shopping centres was most evident in the study by A. Zamfirache *et al.* (2024), which analysed the motivations for visiting shopping centres, the differences between online and offline shopping, and the impact of the pandemic on the consumer experience. In this study, these changes were recognised as contextual factors; however, the focus of the analysis remained on the managerial architecture designed to ensure adaptation to such shifts. A theoretical framework for analysis of management was proposed by A. Spicer & M. Alvesson (2025), who critically examined the tradition of Critical Management Studies and problematised managerialism as a form of power. The work did not aim to deconstruct management but, on the contrary, sought its structural optimisation; nevertheless, both approaches converged in their interpretation of management as a system of power distribution and control. The findings of L.A. Escudero-Gómez (2024) showed that shopping and entertainment centres maintained their competitiveness primarily through a change in format – the development of lifestyle concepts, the strengthening of the entertainment element and the creation of a unique customer experience. The author demonstrated that it was precisely this

reorientation towards leisure and emotional consumption that counteracted the downturn. In this study, the results pointed to a different pattern: resilience and adaptability were determined not so much by a change in format as by the clarity of the management structure, the separation of strategic and operational functions, and the centralisation of key decisions. A similar discrepancy in findings was observed when compared with the conclusions of D. Stankovic *et al.* (2025). The authors argued that multifunctionality, the integration of open spaces and architectural flexibility, contributed to enhancing the centres' appeal and their long-term viability. In contrast, this study found that operational efficiency was ensured primarily by management mechanisms – balanced centralisation, delegation of authority and formalisation of responsibility – which ensured a rapid response to crisis challenges.

A study by M.A. Zaheer *et al.* (2024) demonstrated that e-trust had a direct impact on the intention to make online purchases, acting as a key mediator between the digital characteristics of the platform and consumer behaviour. Meanwhile, M. Kgakatsi *et al.* (2024) concluded that the use of Big Data was positively correlated with the financial and innovation performance of Small and Medium-sized Enterprises, enhancing the strategic effectiveness of the business. In this study, information technology was not the central focus of the analysis; however, the results showed that the systematic, transparent and structured nature of management processes also acted as factors in improving efficiency. An analysis of the results showed that, despite the various research perspectives – ranging from spatial optimisation and business model innovations to digital trust, Big Data and institutional reforms – the key performance factor remained the management system's ability to ensure coordination and control. Whilst some studies linked effectiveness to technological or market drivers, in this study it was attributed to organisational configuration, the centralisation of strategic functions and the formalisation of responsibilities. Thus, a structured model of multi-level decision-making served as the institutional foundation for the shopping centres' adaptation to the transformational environment.

CONCLUSIONS

The study found that the effectiveness of the organisational structure of large shopping and entertainment centres in Ukraine is directly linked to the nature of the distribution of powers, the degree of centralisation of strategic functions, and the capacity for crisis adaptation in a wartime economy. A comparative analysis of Gulliver, Lavina Mall and Nikolsky demonstrated that the scale of a facility (GBA ranging from 106,000 m² at Nikolsky to 170,300 m² at Lavina Mall) does not in itself determine management effectiveness; the decisive factor is a combination of strategic control and operational flexibility. At Gulliver, with a GLA of 108,000 m², following the transfer of the asset to a consortium of state-owned banks, a model was introduced characterised by centralised strategic control and the delegation of operational management to an external manager. The financial parameters of this arrangement are reflected in the establishment of a guaranteed monthly payment to the budget of UAH 17,387,779.06 and the transfer of 70% of management revenues, which

demonstrates the priority to fiscal stability and the controllability of cash flows.

Lavina Mall, with a rental area of 127,000 m² and over 400 shops, has demonstrated a different management approach: a centralised model within the property development group, with a high degree of autonomy for the local CEO. The effectiveness of this structure is confirmed by revenue of UAH 1.8 billion in 2024, a net profit of UAH 44.7 million for the first half of 2025, and an occupancy rate of over 99% (vacancy rate <1%). In addition, there has been a 17% increase in tenants' turnover following the renewal of the tenant mix and a rise in the repeat visit rate from 57% in 2019 to 75% in 2024, indicating the effective integration of strategic and marketing decisions. Nikolsky, with a GBA of around 106,000 m² and investments of USD 124 million, operated under more challenging security conditions. Following the missile strike in 2022 (direct losses ≈USD 18 million, indirect losses – up to USD 150 million), a phased recovery ensured 85% of pre-war traffic and 90% of turnover by the end of 2023, demonstrating the effectiveness of a crisis-adaptive centralised model with tactical decisions delegated to local management.

The results of the study therefore showed that a hybrid or centralised model, with a clear distinction between the strategic and operational levels, formalised responsibilities and the institutionalisation of KPI-oriented control, provides the best balance between financial stability,

occupancy rates (up to 99%) and the speed of response to crisis events. The operational effectiveness of large shopping centres in conditions of uncertainty is determined not only by market parameters, but above all by the configuration of the management system and the ability to combine the centralisation of strategic functions with operational flexibility. The proposed recommendations provide for the formalisation of the distribution of roles according to the RACI principle, whereby strategic decisions remain "Accountable" at the level of the owners or the group, operational initiatives are defined as "Responsible" by local management, key issues are agreed upon in a "Consulted" capacity through strategic committees, whilst other stakeholders are designated as "Informed" via digital reporting systems. Areas for further research include deepening the analysis through inter-regional comparisons, examining the impact of organisational configuration on long-term financial stability, and integrating digital management tools into the multi-level decision-making system.

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Особливості організаційної структури та системи прийняття управлінських рішень у великих торгово-розважальних центрах

Андрій Бринзіло

Аспірант

Міжнародний гуманітарний університет

65009, вул. Фонтанська дорога, 33, м. Одеса, Україна

<https://orcid.org/0009-0006-3287-4994>

Анотація. Метою дослідження було з'ясувати особливості формування організаційної структури та системи прийняття управлінських рішень у великих торговельно-розважальних центрах України в умовах воєнної економіки. Методологія поєднувала структурно-функціональний аналіз моделей управління, аналіз розподілу повноважень між стратегічним і операційним рівнями прийняття рішень та порівняльний кейс-аналіз центрів Gulliver, Lavina Mall і Nikolsky у 2022-2025 роках. Встановлено, що Gulliver із загальною площею 158 000 м² та орендною площею 108 000 м² функціонує за гібридною організаційною структурою зі стратегічною централізацією фінансового контролю та делегуванням операцій зовнішньому управителю, що передбачає гарантований щомісячний платіж 17 387 779,06 грн і перерахування 70 % доходів. Lavina Mall із загальною площею 170 300 м² та орендною площею 127 000 м² демонструє централізовану групову структуру з автономією керівника; у 2024 році дохід становив 1,8 млрд грн, заповнюваність перевищувала 99 %, а товарообіг у 2025 році зріс на 17 %. Nikolsky із загальною площею 106 000 м² та орендною площею 53 000 м² функціонує за функціональною організаційною структурою з централізованим стратегічним управлінням і концентрацією операційних повноважень у межах внутрішньої управлінської команди; після збитків близько 18 млн доларів США у 2022 році центр відновив трафік до 85 % і товарообіг до 90 % завдяки перерозподілу управлінських повноважень та посиленню координації між підрозділами. У дослідженні рекомендовано впровадження багаторівневої організаційної структури з чітким розмежуванням стратегічних і операційних повноважень, формалізацією ролей і відповідальності учасників процесу прийняття рішень, трансформацією інтегральних показників ефективності на рівень підрозділів і посад та поєднанням адаптивності управління зі стійкістю функціонування. Практичне значення дослідження полягає у можливості використання запропонованої моделі власниками та менеджментом торговельно-розважальних центрів для оптимізації розподілу повноважень і підвищення стійкості управління.

Ключові слова: делегування; менеджмент; відповідальність; керівник; ефективність

Project-based solutions and innovative approaches to the management of rehabilitation centres and social service institutions

Nina Tverezovska*

Doctor of Pedagogy, Professor
National University of Life and Environmental Sciences of Ukraine
03041, 15 Heroiv Oborony Str., Kyiv, Ukraine
<https://orcid.org/0000-0002-0672-9308>

Marcus Arthur Launer

Doctor of Economics, Professor
Ostfalia University of Applied Sciences
29556, 7 Herbert-Meyer Str., Suderburg, Germany
<https://orcid.org/0000-0001-9384-0807>

Iryna Demchenko

Doctor of Pedagogy, Professor
National University of Life and Environmental Sciences of Ukraine
03041, 15 Heroiv Oborony Str., Kyiv, Ukraine
<https://orcid.org/0000-0003-4302-7564>

Daria Suprun

Doctor of Pedagogy, Professor
National University of Life and Environmental Sciences of Ukraine
03041, 15 Heroiv Oborony Str., Kyiv, Ukraine
<https://orcid.org/0000-0003-4725-094X>

Tetiana Hryhorenko

Doctor of Pedagogy, Professor
National University of Life and Environmental Sciences of Ukraine
03041, 15 Heroiv Oborony Str., Kyiv, Ukraine
<https://orcid.org/0000-0002-4616-6853>

Abstract. Unprecedented challenges associated with martial law, limited resources, growing population needs and the ongoing transformation of the social sector call for a fundamental rethinking of traditional management approaches in rehabilitation centres and social service institutions. The aim of this study was to provide a conceptual framework for a system of innovative management approaches and project-based solutions for rehabilitation centres and social service institutions, taking into account the contemporary Ukrainian context. The study employed a mixed-methods methodology, including a systematic literature review, analysis of the regulatory framework, qualitative case studies, a quantitative survey of 247 respondents from 183 organisations and expert validation of the proposed model using

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*Corresponding author (tverezovskaya@nubip.edu.ua)



the Delphi method. The findings revealed critical gaps in current management practices: only 23.7% of organisations considered their management systems to be innovative. The main challenges include limited funding (87.4%), a shortage of qualified personnel (71.3%), professional burnout (68.9%) and adaptation to wartime conditions (64.2%). The study has systematised international experience and Ukrainian practices across eight key areas: digital transformation, project management, co-production with clients, Agile practices, quality management, strategic human resource management, financial management, partnerships and management under wartime conditions. Based on the synthesis of the findings, an integrated model of innovative management has been developed, combining four interrelated domains: strategic leadership and governance, operational excellence and quality, stakeholder engagement and resource sustainability. The model has been validated by experts and adapted to the context of limited resources and wartime challenges. A comprehensive set of implementation tools has been developed, including a diagnostic instrument, a transformation roadmap, methodological guidelines, templates and a training program. The study suggests that organisations with a high level of management innovation achieve 38% higher client satisfaction, 43% better team coordination and 52% lower staff turnover. Organisational resilience was found to be a critical predictor of survival during periods of crisis

Keywords: social sector; human resources; integrated model; digital transformation; financial sustainability; agile practices; roadmap

● INTRODUCTION

The relevance of this study is stipulated by the unprecedented challenges faced by rehabilitation centres and social service institutions in Ukraine under conditions of martial law, large-scale internal displacement and profound systemic transformation of the social sector. The combined impact of military actions, demographic changes, population aging, the increasing prevalence of chronic diseases, disabilities, the consequences of the COVID-19 pandemic, and a persistent shortage of resources places critical pressure on the social welfare and rehabilitation system, thereby necessitating a reconsideration of traditional management approaches.

According to the World Health Organization (2017), more than 2.4 billion people worldwide have health conditions requiring rehabilitation services and this number continues to increase. In Ukraine, this issue has become particularly acute due to the full-scale Russian invasion. In 2023 more than 800 social service institutions provided services to approximately 250,000 individuals, while the number of people with disabilities resulting from military actions has increased significantly compared to the pre-war period. More than 150 social institutions were damaged or destroyed, whereas the demand for rehabilitation and social services for military personnel, civilian victims and internally displaced persons increased dramatically. In particular, according to G. Rodríguez-Abitia and Bribiesca-Correa (2021) the implementation of digital solutions, including electronic case management systems, telerehabilitation and analytical platforms enhances service accessibility, optimises resource utilisation, and improves client satisfaction, although it also requires consideration of the risks associated with digital inequality. N. Donthu *et al.* (2021) argued that involving service recipients in co-production processes contributes to improved service outcomes, greater alignment of services with actual needs and enhanced client agency. S. Denning (2022) proved that agile approaches are highly effective in the social sector under conditions of uncertainty and rapid change, fostering adaptability and facilitating rapid organisational learning.

J.S. Levenson (2017) emphasised that evidence-based management and trauma-informed approaches are particularly valuable for their ability to reduce the risk of client re-traumatisation and staff burnout. According to P.G. Malakyan (2023), adaptive leadership is a key factor in

ensuring organisational resilience under crisis conditions. S. Sankaran *et al.* (2022) argued that the development of a project methodology specifically adapted to the social sector is necessitated by the unique nature of social services and the complexity of management processes in this field. S. Verweij & A. Shreya (2023) pointed out that effective management of social organisations is grounded in integrated partnership and quality management models based on trust, a shared vision and cross-sectoral collaboration. T.D. Calabrese (2012) demonstrated that the financial sustainability of social institutions increasingly depends on the diversification of funding sources and the development of innovative financial strategies. Ukrainian scholars have also addressed the issue of management transformation in the social sector; however, the literature remains relatively fragmented. For example, N.T. Tverezovska *et al.* (2025) analysed contemporary management models for rehabilitation institutions and identified both theoretical foundations and practical challenges associated with resource constraints and organisational operations. In particular, O.V. Katsora (2025), based on an expert assessment conducted in the Zakarpattia region, identified regional specificities of social service provision under crisis conditions and emphasised the need for stronger coordination mechanisms. Furthermore, R.I. Dzhuhan *et al.* (2025) examined the organisation of social services for veterans in territorial communities and proposed innovative approaches, including case management and mobile service hubs.

Despite substantial international research and findings of Ukrainian scholars, insufficient attention has been paid to the fundamental transformation of management practices in rehabilitation centres and social service institutions. Traditional bureaucratic management models, focused primarily on procedural compliance and administrative control, are gradually being replaced by innovative approaches grounded in data-driven decision-making, flexibility and client-centeredness. The implementation of electronic case management systems, the Unified Information System of the Social Sphere (UISSS), analytical tools and digital service provider portals enables organisations to shift from reactive to proactive management, optimise resource allocation, and improve responsiveness to clients' individual needs. At the same time, practical mechanisms for implementing flexible project management

methodologies adapted to the Ukrainian context remain underdeveloped, particularly with regard to regional specificities, cross-sectoral collaboration and digitalisation under wartime conditions. These challenges underscore the need for substantiating a system of innovative management approaches and project-based solutions for rehabilitation centres and social service institutions. Thus, the aim of this study was to substantiate a system of innovative management approaches and project-based solutions for rehabilitation centres and social service institutions, taking into account contemporary challenges and the specific context of Ukraine.

● MATERIALS AND METHODS

The research was conducted in several stages aimed at a comprehensive study of innovative management approaches and project-based solutions in the management of rehabilitation centres and social service institutions. The first stage involved a systematic literature review to identify, analyse and synthesise international experience of applying innovative management approaches in the social sector. The literature search was conducted in the Web of Science, Scopus, PubMed and Google Scholar databases for the period 2018-2025, including the following keywords: “innovative management”, “social services”, “rehabilitation centres”, “agile management”, “digital transformation”, “project management”, “quality management” and “non-profit organisations”. The inclusion criteria comprised peer-reviewed publications, empirical studies or high-quality conceptual papers, relevance to the management of social service institutions and the availability of full-text articles in English. The initial search yielded 847 publications. Following abstract screening and full-text review, 163 relevant sources were selected for further analysis. The findings were synthesised using thematic analysis with coding focused on key concepts, approaches, empirical evidence of effectiveness and contextual factors influencing implementation.

The second stage involved the analysis of regulatory framework and policy documents governing the operation of rehabilitation centres and social service institutions in Ukraine. The analysis covered Law of Ukraine No. 875-XII (1991), DBN V.2.2-18:2007 (2007), Order of the Ministry of Social Policy of Ukraine No. 760 (2013), Law of Ukraine No. 2671-VIII (2019), Law of Ukraine No. 1053-IX (2020), Resolution of the Cabinet of Ministers of Ukraine No. 587 (2020), Resolution of the Cabinet of Ministers of Ukraine No. 99 (2021), Law of Ukraine No. 1664-IX (2021), Order of the Ministry of Social Policy of Ukraine No. 115 (2021), Order of the Ministry of Social Policy of Ukraine No. 90 (2022), National Social Service of Ukraine (2023), and Order of the Cabinet of Ministers of Ukraine No. 34-r (2025). In addition, international standards and guidelines were examined, including the United Nations (2006) Convention on the rights of persons with disabilities, ISO 9001:2015 (2015), World Health Organization (2019) guidelines and CARF (2025) accreditation standards. Content analysis of these documents made it possible to identify formal management requirements, gaps between regulatory standards and actual practices, and opportunities for innovation within the existing regulatory framework.

The third stage involved a qualitative empirical investigation of management practices in Ukrainian rehabilitation centres and social service institutions. A case study approach (Iatsyshyn *et al.*, 2024; Gusak *et al.*, 2025) was employed to gain an in-depth understanding of management practices, challenges and innovative practices. Using the principle of maximum variation sampling, 12 institutions of different types were selected, including state and municipal rehabilitation centres, non-governmental social service providers, disability service providers, childcare facilities, psychosocial support centres for military personnel and civilians affected by the war. Geographically, the sample included institutions from western regions (3 institutions), central regions (4 institutions) and eastern and southern regions (5 institutions, including evacuated and reintegrated institutions).

The primary data collection method included semi-structured interviews with institutional leaders and key managers. 28 in-depth interviews, each lasting 60-90 minutes, were conducted to explore management approaches, strategies, challenges, innovative practices and adaptation to wartime conditions. The interview guide included questions on organisational structure and processes, strategic planning and change management, service quality management, project management, human resource management, financial management, the use of technology, partnerships and cross-sectoral collaboration, as well as wartime-specific challenges and strategies for addressing them. With participants' consent, the interviews were audio-recorded, transcribed and analysed using inductive thematic coding in the MAXQDA software environment.

In addition, participant observation was conducted during visits to the institutions. The observations focused on organisational culture, staff-client interactions, physical environment, the use of technology, team dynamics and documentation processes. 47 field notes were recorded, providing contextual information and insights into the nonverbal aspects of organisational reality that complemented the interview data. Organisational documents were also analysed, including strategic plans, policies and procedures, reports on service quality and client outcomes, project documentation, stakeholder satisfaction assessments, accreditation and external evaluation materials. Document analysis made it possible to verify information obtained through interviews (Tverezovska & Sydorenko, 2013) and to collect objective data on organisational practices.

The fourth stage involved a quantitative study conducted through an online survey of managers and professionals working in rehabilitation centres and social service institutions. A structured questionnaire comprising 68 items was developed and organised into the following sections: organisational characteristics; the application of innovative management approaches (digital technologies, project management methodologies, Agile practices, evidence-based management, co-production); service quality management; human resource management; financial management; partnerships; challenges and barriers to innovation; the impact of war on management practices. Most questionnaire items employed the Likert scale (Likert, 1932) to measure the level of agreement, frequency of practice use and approaches effectiveness. Open-ended questions were also included to obtain qualitative comments.

The survey was conducted between February and March 2025 using the Google Forms platform. The survey link was distributed through professional networks, associations of social sector organisations and specialised groups on social media. 247 valid responses were obtained from representatives of 183 different institutions across all regions of Ukraine. This ensured the representativeness of the sample in terms of institution type, ownership form, size and geographic location. Survey data were analysed using SPSS 26.0, alongside descriptive statistics, correlation analysis, group comparisons (t-tests and ANOVA) (Tabachnick *et al.*, 2019; Montgomery *et al.*, 2019) and regression modelling to identify predictors of the effectiveness of management innovations.

The fifth stage involved synthesising the findings of the previous stages to develop an integrated model of innovative management approaches adapted to the context of Ukrainian rehabilitation centres and social service institutions. Theoretical modelling (Arias Valencia, 2022) was employed on the basis of data triangulation (McCrudden *et al.*, 2021). The literature review, qualitative case studies (Schlunegger *et al.*, 2024) and quantitative survey (Creswell & Inoue, 2024) were also incorporated into the modelling process. The model includes key components, their inter-relationships, conditions for effective implementation and expected outcomes at different levels (clients, staff, organisation, system). Model validation was conducted through consultations with an expert panel comprising 8 international experts in social service management, 12 leading Ukrainian practitioner-managers of social service institutions and 5 scholars in the fields of social work and public administration. The expert evaluation focused on the model's relevance, comprehensiveness, practical applicability and cultural appropriateness. Based on the results of two rounds of expert review using the Delphi method, the model was refined and finalised.

The sixth stage involved the development of practical tools and recommendations for the implementation of innovative approaches, including a diagnostic tool for self-assessing the level of innovativeness of an institution's management practices, step-by-step methodological guidelines for implementing specific approaches (digital transformation, Agile practices, co-production and evidence-based management), adapted project documentation templates for the social sector, service quality management checklists, competency development programs for managers in the field of innovative management. These tools underwent pilot testing in 6 institutions and were subsequently refined based on the feedback received.

The study was conducted in accordance with the ethical principles of the World Medical Association (2024) and the requirements of the current legislation of Ukraine concerning the protection of personal data. All procedures related to the collection, processing and storage of information were carried out in compliance with Law of Ukraine No. 2297-VI (2010). Prior to participation in the interviews and survey, all respondents received detailed information about the purpose of the study, the methods employed and the use of the collected data, and provided informed consent. Confidentiality and anonymity were ensured: institutions are not identified in publications and are referred to using generalised codes. Audio recordings

of the interviews and personal data are stored in encrypted form with restricted access. Respondents had the right to decline participation or withdraw from the interview at any stage without providing a reason. Special attention was paid to the ethical aspects of working with respondents who may have experienced war-related traumatic events, in particular, a supportive environment was maintained, respondents were not required to discuss traumatic experiences, information about available psychological support resources was provided.

The qualitative component of the study was based on case studies of 12 institutions, which does not allow for the statistical generalisation of the findings to the entire population of Ukrainian rehabilitation centres and social service institutions; however, it provides an in-depth understanding of the context and underlying mechanisms. Although the quantitative survey covered 183 institutions, it relied on convenience sampling through professional networks, which may have introduced selection bias in favour of more active and innovative organisations. The self-reported survey data may be subject to social desirability bias. The study employed a cross-sectional design, which limits the ability to draw conclusions regarding causal relationships and changes over time. The wartime context created additional logistical challenges for data collection, particularly in eastern and southern regions, which may have affected the completeness of the sample. Despite these limitations, the use of multiple complementary methods (systematic literature review, document content analysis, case studies, survey research, expert evaluation) (Younas *et al.*, 2023) ensured data triangulation and enhanced the reliability and validity of the findings.

● RESULTS AND DISCUSSION

Sample characteristics and the current state of management practices

The analysis of the quantitative survey data made it possible to develop a detailed profile of Ukrainian rehabilitation centres and social service institutions. By the type of ownership, the institutions were distributed as follows: municipal institutions accounted for 42.3% of the sample, state institutions for 28.1%, non-governmental non-profit organisations for 24.6% and private for-profit organisations for 5.0% (Fig. 1). By service type, the sample was dominated by comprehensive rehabilitation centres for adults (31.7%), followed by disability service providers (23.8%), psychosocial support centres (18.5%), paediatric rehabilitation centres (15.3%) and geriatric care institutions (10.7%). In terms of size, the organisations ranged from small (serving up to 20 clients simultaneously, 18.9%) to medium-sized (21-100 clients, 53.3%) and large (more than 100 clients, 27.8%). The geographic distribution reflected nationwide coverage, with a concentration of institutions located in major cities. The assessment of the current state of management practices revealed substantial heterogeneity across institutions. Only 23.7% of respondents considered their organisation's management system to be modern and innovative, whereas 48.2% characterised it as predominantly traditional with some innovative elements and 28.1% admitted its reliance mainly on outdated approaches. The principal management challenges identified by respondents are presented in Table 1.

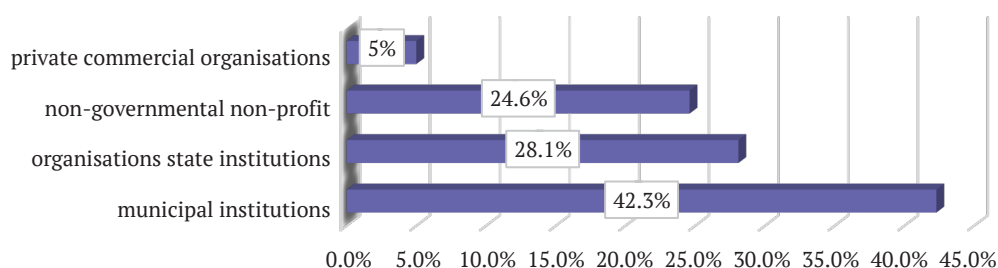


Figure 1. Profile of Ukrainian rehabilitation centres and social service institutions by ownership type

Source: developed by the authors based on the quantitative survey

Table 1. Key management challenges

No.	Challenges	Percentage of respondents, %
1	Limited funding	87.4
2	Shortage of qualified personnel	71.3
3	High workload and professional burnout among staff	68.9
4	Challenges of adapting to wartime changes	64.2
5	Inadequacies in the regulatory framework	57.8
6	Lack of modern technologies and digital tools	53.4
7	Difficulties in securing donor funding	49.7

Source: developed by the authors based on a survey of managers

The above-mentioned challenges shape the context in which innovative management approaches are implemented. The findings indicate that organisational leaders recognise the need for management transformation; however, existing barriers constrain the pace and scope of change. In the international context, management transformation in social care and long-term care systems has emerged as a systemic response to growing demand, population ageing and workforce shortages. According to OECD (2025a; 2025b), in 2023, an average of 12% of individuals aged 65 years and older across 31 OECD countries received long-term care services, while the share of care provided at home increased from 66% in 2013 to 70% in 2023. At the same time, a substantial proportion of older adults, requiring assistance with everyday activities, continue to experience

unmet care needs, highlighting the need for innovative management solutions. The international structure of the sector differs considerably from that of Ukraine as in most OECD countries, private non-profit organisations (45-70%) and for-profit providers predominate, whereas public institutions account for only 20-40% of service provision. In countries with highly privatised systems (the United States, Australia, the United Kingdom), medium-sized and large providers dominate the sector, creating more favourable conditions for the implementation of digital platforms, analytics, and modern quality management models (Table 2). The level of management innovativeness is also higher in these countries: 45-65% of managers consider their management systems to be modern, with extensive use of digital tools, Agile practices and client engagement as partners.

Table 2. Comparative characteristics of rehabilitation centres and social service institutions (Ukraine and OECD countries / the United States (2023-2025))

No.	Indicator	Ukraine (2025), %	OECD Countries / United States (2023-2025), %	Notes
1	Public and municipal institutions	70.4	20-40	Public and municipal ownership predominates in Ukraine
2	Private non-profit organisations	24.6	45-70	The share is considerably higher in developed countries due to charitable traditions
3	Private for-profit organisations	5.0	10-74 (the USA – up to 74)	The for-profit segment is almost absent in Ukraine
4	Small organisations (up to 20 clients)	18.9	10-15	-
5	Medium-sized organisations (21-100 clients)	53.3	45-55	-
6	Large organisations (more than 100 clients)	27.8	35-60	The proportion is higher in the United States and Australia due to economies of scale
7	Level of modern and innovative management	23.7	45-65	Ukraine lags significantly behind
8	Share of institutions relying primarily on outdated approaches	28.1	10-20	The figure is nearly three times higher in Ukraine
9	Active use of digital management tools	-	60-80	Data were not available from the Ukrainian survey

Table 2, Continued

No.	Indicator	Ukraine (2025), %	OECD Countries / United States (2023-2025), %	Notes
10	Use of Agile and project-based methodologies	-	40-65	Data were not available from the Ukrainian survey
11	Level of client engagement as active partners	-	55-75	Data were not available from the Ukrainian survey

Source: developed by the authors based on the quantitative survey conducted by the authors (Ukraine) and data from Centres for Medicare & Medicaid Services (2024a; 2024b), KFF (2024; 2025), European Commission (2025a; 2025b), OECD (2025a; 2025b), CARF (2025), CARF International (2025), Care Quality Commission (2025)

Compared with international practice, the Ukrainian system remains considerably more state- and municipally oriented, with a predominance of traditional bureaucratic approaches. A positive aspect is the possibility of centralised planning and coordination under wartime conditions. Its limitations include a slower pace of adaptation to change, restricted opportunities for the implementation of digital tools and project management methodologies and a high dependence on public funding. At the same time, these specific characteristics create substantial opportunities for the targeted implementation of project-based solutions and innovative management practices adapted to conditions of limited resources and crisis operation.

Digital transformation as a driver of innovation in management

Digital transformation is one of the most powerful drivers of innovation in the management of social service institutions. The findings revealed substantial variation in the level of digitalisation across organisations. Basic digital tools (e-mail, office software, messaging applications) are used by nearly all institutions (97.6%). However, specialised management systems with greater transformative potential are considerably less widespread. Electronic case management systems have been implemented in only 34.8% of organisations, electronic document management systems operate in 41.2%, CRM systems for stakeholder relationship management are used by 28.7% and analytical tools for performance monitoring (dashboards and business intelligence tools) are employed by 22.3% of institutions. Digital tools not only automate routine operations but also fundamentally transform management practices, turning them into a strategic instrument for managing change, projects and innovation. CRM systems facilitate a shift from episodic recording of interactions to the systematic management of client pathways, improving the quality of managerial decision-making by providing timely information for project adjustment, resource allocation optimisation, and process change planning.

Case studies revealed specific examples of the transformative impact of digitalisation. Rehabilitation Centre RC-04 implemented a comprehensive electronic management system integrating client registration, planning of individualised rehabilitation programs, progress documentation, multidisciplinary team coordination and reporting. The head of the institution pointed out the following: “The digital system has fundamentally changed our approach to management. We receive real-time data on each client, can quickly adjust programs and our team works in a coordinated manner. The time required for administrative procedures has decreased by 40%, while the quality of

coordination has improved significantly”. The quantitative findings confirmed these observations: institutions that had implemented electronic case management systems demonstrated 38% higher levels of client satisfaction and 31% better coordination among professionals compared to organisations relying on paper-based documentation.

Tele-rehabilitation and remote service delivery have become critically important under pandemic-related and wartime constraints. According to the survey findings, 56.3% of institutions had implemented one or more forms of remote service delivery. The most common ones included video consultations provided by psychologists and social workers (43.7%), online peer support groups (38.9%), video-based guidance for home exercises (32.4%) and remote monitoring of clients’ conditions (27.1%). Comprehensive tele-rehabilitation platforms featuring interactive exercises, real-time feedback and integration with wearable devices were used by only 14.6% of organisations. Organisation SS-07, which works with veterans in rural areas, developed a hybrid service model combining periodic face-to-face meetings with regular remote support. A social worker described this approach as follows: “Many of our clients live 50-100 km from the centre. Previously, they could come maximum once a month. Now we conduct weekly video sessions, which allow us to maintain continuity of the therapeutic process, respond promptly to crises and involve family members. Outcomes have improved significantly”. Statistical analysis showed that clients receiving a combination of in-person and remote services achieved rehabilitation goals at rates 44% higher than those receiving only in-person services at extended intervals.

The use of data and analytics for managerial decision-making remains insufficiently developed despite its widely recognised potential. Only 31.2% of organisations systematically collect and analyse client outcome data to assess program effectiveness. Regular monitoring of key performance indicators (KPIs) is conducted by 38.7% of institutions. Data-informed strategic planning is practiced by 29.4% of organisations, while only 12.8% use predictive analytics to forecast needs and risks. Interviews with organisational leaders revealed two main models of data use. The first, a reactive model, is characterised by data collection primarily for reporting to donors and regulatory authorities, occasional analysis and limited use of data in decision-making. The second, a proactive evidence-based management model, involves the systematic collection of a broad range of indicators, regular analysis and discussion of data by the team, integration of insights into planning and operational adjustments, the use of data for training and improvement. Organisations adopting the proactive model (23.7% of the sample) demonstrated significantly

higher organisational effectiveness according to a composite index encompassing client outcomes, financial sustainability and staff satisfaction (mean score 7.8 versus 5.3 on a 10-point scale, $p < 0.001$).

The RC-09 Centre developed its own monitoring and evaluation system tracking 28 key indicators across four domains: client outcomes (functional improvements, goal attainment, satisfaction), service delivery processes (waiting time, protocol compliance, coordination), staff (satisfaction, professional burnout, competencies), financial sustainability and efficiency. The data are visualised through an interactive dashboard accessible to senior management and program managers. Monthly meetings begin with a review of indicators, discussion of trends, identification of problems and implementation of corrective

actions. The director emphasised: “Data have changed the organisational culture. Decisions are no longer based on assumptions or intuition but on facts. We can quickly see what works and what does not, and we can experiment”. Three years after the implementation of this system, the institution demonstrated a 52% improvement in client goal attainment, a 38% reduction in staff turnover and a 67% increase in donor funding. The barriers to digitalisation identified in the study are presented in Table 3. Successful organisations overcome these barriers through phased implementation (starting with simple, accessible tools), intensive staff training with an emphasis on practical benefits, engagement of technological partners (IT companies, universities) for support and clear data security and confidentiality policies.

Table 3. Barriers to digitalisation

No.	Barriers	Percentage of respondents, %
1	Limited financial resources for the purchase of software and equipment	79.3
2	Insufficient digital competencies among staff	63.7
3	Resistance to change and preference for traditional paper-based processes	51.2
4	Lack of technical support and system maintenance	48.9
5	Concerns regarding data security and confidentiality	43.6
6	Difficulties in integrating different systems	39.7

Source: developed by the authors based on a survey of respondents

The findings indicate a low level of digital transformation in Ukrainian rehabilitation centres and social service institutions. Most organisations rely on basic digital tools, while systems with a strategic impact on management (electronic case management systems, CRM systems and analytical platforms) have been implemented in fewer than one-third of institutions. As J. Lu *et al.* (2024) suggest, digital technologies significantly enhance managers’ self-efficacy and the quality of decision-making in crisis situations, as they enable faster access to relevant information, more efficient comparison of alternatives, continuous monitoring of changes, and the implementation of innovations without critical delays. In this context, digitalisation functions both as a technical tool and as a managerial resource that strengthens an organisation’s capacity to operate under conditions of uncertainty. This conclusion is partially supported by the data, as institutions that had implemented electronic case management systems demonstrated 38% higher levels of client satisfaction and 31% better coordination among professionals.

A similar conclusion can be found in the study by H. Härkönen *et al.* (2024), arguing that digital services have a positive impact on the quality of social services, although their effects on costs and overall population health remain uncertain. The authors particularly emphasise that digitalisation demonstrates its greatest potential in improving managerial processes, interprofessional coordination and access to information for decision-making. The findings of the present study are consistent with this idea; however, they also highlight a significant structural lag in Ukrainian institutions, as only 34.8% of organisations use electronic case management systems.

In their study, C. Jong & A. Ganzaroli (2024) focused on digital transformation in the non-profit sector and demonstrated that CRM systems and analytical platforms

significantly improve project management, stakeholder engagement and strategic change planning. The relevance of this finding goes beyond a purely technical description of tools, as CRM systems, in this perspective, function as an infrastructure for building systemic relationships between organisations, clients, partners, donors and other stakeholders. Accordingly, analytical platforms enable organisations to move beyond considering solely the current state of services and instead identify trends, bottlenecks, risk areas and opportunities for organisational development. The findings of the present study support this argument; however, they also reveal a substantial gap, as only 28.7% of Ukrainian institutions use CRM systems.

The findings of A. Rousaki *et al.* (2024) further reinforce this understanding, as the authors report that digitalisation of social care contributes to improved team coordination and higher service quality. This regularity is particularly significant for social service organisation, where the quality of care largely depends on the alignment of actions among different professionals, the speed of information exchange and the ability to respond promptly to changes in clients’ situations. The results of the present study are consistent with this evidence, as institutions with implemented electronic systems demonstrated 31–38% better coordination and higher levels of client satisfaction. In this sense, digitalisation can be understood as a mechanism for reducing managerial fragmentation, overcoming the isolation of professional groups and shaping a more integrated service delivery model.

At the same time, international studies convincingly demonstrate that successful digital transformation cannot be reduced to the procurement of software or the implementation of electronic document management systems. A. Stoumpos *et al.* (2023) emphasised that digital transformation requires not only technological solutions but also

changes in organisational culture, development of staff competencies, managerial support for new practices and the institutionalisation of new forms of work. The findings of the present study fully support this assumption, as the main barriers include limited financial resources, reported by 79.3% of respondents and insufficient levels of digital competencies among staff, indicated by 63.7% of respondents.

Particular attention should also be paid to the argument that digitalisation in the social sector should be both effective and ethical. A. Saverino *et al.* (2021) and T. Versess (2026) emphasised the role of digital platforms in team coordination and in promoting an ethical, client-centred approach to innovation. The RC-04, RC-09 and SS-07 cases demonstrate a similar effect, although on a considerably smaller scale. In these cases, digital tools did not operate in isolation but rather in combination with proactive leadership, stronger team collaboration and a commitment to individualised support. Thus, digital tools, including CRM systems, analytical platforms and electronic case management systems, not only automate operational processes but also serve as strategic instruments for managing change, projects, and innovation within social service organisations. Their key value lies in enabling a shift from intuition-based management to data-driven management and from fragmented coordination to an integrated view of services, resources, and outcomes.

Project-based management: Adapting methodologies to the social services context

A project-based management approach is becoming increasingly widespread in Ukrainian rehabilitation centres and social service organisations, although its application remains uneven and often intuitive. According to the survey, 64.8% of organisations implement various projects beyond their core operational activities; however, only 28.3% employ formalised project-based management methodologies. The most common types of projects include grant-funded initiatives aimed at attracting donor support (reported by 73.2% of organisations engaged in project activities), projects focused on the implementation of new programs or services (58.7%), infrastructure projects (renovation and equipment acquisition, 47.9%), partnership and cross-sector collaboration projects (41.3%), organisational development projects (36.8%), and digital transformation projects (29.4%). The case analysis identified three principal approaches to project-based management in social service organisations. The first, an ad hoc approach, is characterised by the absence of standardised processes, reactive management, limited documentation and poor coordination. Projects are driven by the enthusiasm of individual staff members or teams, often with insufficient planning and resources. This approach was observed in 43.7% of organisations engaged in project activities and is associated with a high rate of project failure (52.8% of projects fail to achieve their stated objectives or meet established deadlines).

The second approach is the traditional waterfall model, which involves sequential phases (initiation, planning, implementation, monitoring, closure), detailed upfront planning, formal approval procedures and a strong emphasis on adherence to the project plan. It is used by 34.9% of organisations, primarily for projects with clearly defined

requirements, a relatively stable context and low levels of uncertainty (e.g., construction and infrastructure projects). As one project manager explained: “We use the traditional approach for projects where everything can be planned in advance. When we build a ramp or install equipment, we are aware of all the steps, costs and timelines”. At the same time, traditional approaches demonstrate higher success rates in technical projects (78.3%) and lower effectiveness in projects characterised by high complexity and uncertainty (43.7% success rate in the development of new social programs).

The third approach, the flexible (adaptive) approach, is gaining increasing popularity in projects focused on the development and implementation of new services, programs, and organisational processes. Formal agile methodologies are used by 12.4% of organisations; however, individual elements of agility (iterative development, short testing cycles, active stakeholder involvement and the ability to rapidly adjust decisions) are employed by 28.7%. For example, the SS-03 centre adapted a sprint-based approach to develop a psychosocial support program for military families: the team worked in two-week cycles, testing each component with a small group of clients, collecting feedback and refining the program content before scaling it up.

The project coordinator described the experience as follows: “The flexible approach to managing the project enabled us to learn quickly. We realised that some of our initial assumptions were incorrect. Clients needed more practical self-regulation skills and less psychoeducation. Through iterative refinement, we were able to address these issues before the full-scale implementation of the program”. According to client feedback, the relevance of the program developed in this way was 67% higher than that of previous programs designed using traditional approaches. Each of these approaches contributes differently to addressing management challenges in resource-constrained environments: the ad hoc approach enables rapid responses but often results in inefficient resource utilisation; the traditional waterfall approach provides better control over budgets and timelines; the flexible approach helps minimise risks and adapt solutions with minimal costs. The practices of successful organisations are often hybrid in nature. For example, RC-06 combines traditional planning (budgeting, timelines, key milestones) with the flexible development of specific service components, thereby balancing the need for structure and adaptability.

The competence of project managers and project teams is a critical success factor. The survey revealed substantial gaps: only 34.7% of organisations employ staff with formal education or certification in project management, 41.2% have provided internal training and 28.9% use standardised digital project management tools. Organisations investing in the development of project management competencies demonstrate 58% higher project success rates and a 43% greater capacity to attract donor funding. Stakeholder management represents another challenge due to the number and diversity of actors involved, including clients and their families, multidisciplinary staff, organisational leadership, donors, regulators, partners, local communities, suppliers, and volunteers. Successful managers systematically analyse stakeholder groups, plan engagement strategies, maintain regular communication,

align expectations and facilitate decision-making when conflicts arise. A notable example is SS-11, which established a stakeholder advisory board for its service transformation project, thereby increasing support for change and reducing resistance.

Financial management of projects is complicated by dependence on limited and unstable grant funding. According to the survey, 68.3% of projects face budget-related challenges, including the underestimation of costs during the planning stage (47.8%), funding delays (43.2%), inflationary and exchange-rate fluctuations (39.7%), and unforeseen expenses (36.4%). Effective practice involves realistic budgeting with contingency reserves, regular plan-versus-actual monitoring, flexible reallocation of resources (within donor requirements), transparent reporting and the diversification of funding sources. Risk management remains an insufficiently developed component of project-based management: only 23.8% of organisations systematically identify and assess risks at the project outset, 18.7% develop response plans and 31.4% monitor risks throughout project implementation. In the wartime context, this becomes particularly important due to security threats, energy-related disruptions, supply chain interruptions, staff losses resulting from mobilisation or relocation, shifts in donor priorities and the risk of secondary traumatisation among both clients and staff. RC-02, located in a frontline region, developed scenario-based action plans, backup locations, evacuation protocols, diversified supply arrangements, staff substitution mechanisms, as well as psychological support measures for the team.

Project monitoring and evaluation are widely practiced (78.3%); however, they are often limited to tracking the implementation of activities and budget utilisation for reporting purposes. Outcome and impact evaluation is used less frequently due to the complexity of measurement and limited resources. More progressive organisations are moving toward results-based management, focusing on changes experienced by service recipients and long-term impact, while combining quantitative and qualitative data with standardised measurement instruments. The institutionalisation of project-based management practices through the establishment of a Project Management Office (PMO) remains uncommon (8.7%) but represents a promising solution for organisations managing multiple projects. A PMO provides standardised tools and procedures, training and support for project managers, portfolio monitoring, knowledge management and coordination across initiatives. After the establishment of such an office, SS-08 increased its project success rate from 61% to 84% over a two-year period.

Co-production and the client-centred approach: from service delivery to partnership

Involving clients as active partners in the design, delivery and evaluation of services (co-production) represents a paradigmatic shift from the traditional model of “the expert provides – the client receives” to a model of value co-creation. From a management perspective, this approach contributes to a more accurate allocation of limited resources, reduces transaction costs associated with adjusting services that do not adequately meet client needs and enhances the organisation’s ability to adapt to changing demands.

The study revealed growing recognition of the importance of this approach; however, its practical implementation remains limited. Thus, 83.4% of respondents agreed that clients should be actively involved in decisions concerning their own services, yet only 34.2% rated the level of such involvement in their organisation as high, while 47.8% considered it moderate and 18.0% low.

The analysis of organisational practices made it possible to identify five levels of client involvement, reflecting increasing degrees of partnership: 1) information (clients receive information about services, rules and procedures but are not involved in decision-making); 2) consultation (the organisation seeks clients’ opinions through satisfaction surveys, suggestion boxes and focus groups, while final decisions are made by the organisation alone); 3) involvement in individual decision-making (clients actively participate in defining their rehabilitation goals, selecting intervention methods and assessing progress through shared decision-making); 4) involvement in program management (clients serve on advisory boards, participate in working groups responsible for developing new services, contribute to staff training and take part in quality assessment); 5) partnership in organisational governance (clients are represented in governing bodies, such as supervisory boards and management boards, and have an equal voice in strategic decision-making) (Fig. 2). The first two levels are the most common, whereas actual client involvement in strategic decision-making occurs much less frequently.

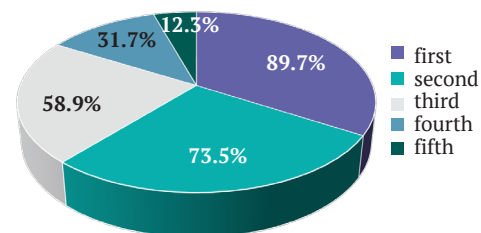


Figure 2. Levels of client involvement

Source: developed by the authors based on practice analysis

The rehabilitation centre RC-07 demonstrates a systematic approach through individualised goal setting and regular progress reviews, the operation of a client advisory council, client involvement in staff recruitment and the adaptation of new employees, as well as representation on the supervisory board. From a management perspective, this model creates a feedback mechanism that enables organisational leaders to make more informed decisions, promptly adjust service delivery strategies and improve their alignment with actual client needs. The model also enhances service relevance, increases client motivation, fosters a sense of agency, and simultaneously provides the organisation with valuable insights for continuous improvement and greater legitimacy. Organisations with high levels of client involvement reported higher levels of service satisfaction (8.7 versus 6.9 on a 10-point scale; $p < 0.001$). As the director emphasised: “Co-production is not simply a nice addition; it represents a fundamental cultural shift. We moved from asking ‘What can we do for clients?’ to ‘What can we do together with clients?’ This requires letting go

of expert authority, building trust, listening carefully and sometimes dealing with uncomfortable feedback”.

Clients report higher levels of service satisfaction (in organisations with high levels of client involvement, the average satisfaction score was 8.7 compared to 6.9 on a 10-point scale, $p < 0.001$), a greater alignment of services with their actual needs and preferences, higher motivation and adherence to rehabilitation programs, as well as a stronger sense of empowerment and agency. Organisations gain valuable insights for service improvement, innovation (many new services emerge from clients' ideas), and enhanced legitimacy and accountability. In conditions of resource constraints and external disruptions, particularly those associated with martial law, co-production should be viewed as an effective mechanism of adaptive management, enabling the flexible reorientation of services in response to changing needs without a disproportionate increase in the costs associated with formal research procedures. Staff report a greater sense of purpose in their work and lower levels of professional burnout as a result of seeing the tangible impact of their efforts and sharing a common mission with clients.

However, co-production also presents a number of challenges. The most frequently reported barriers include the limited cognitive or communication abilities of some clients (e.g., individuals with severe cognitive impairments and children), power imbalances between professionals and clients, the difficulty of reconciling diverse and sometimes conflicting preferences among multiple clients, the additional time and resources required for genuine involvement, a lack of staff skills in facilitating participation, and cultural norms of paternalism and professional authority embedded in the national tradition of social service provision. Strategic leadership plays a crucial role in this process, as it is at the leadership level that the organisational and cultural environment is shaped, enabling co-production to become not merely an optional practice but a fundamental principle of organisational management. The findings indicate that organisations whose leaders consistently demonstrate a commitment to partnership with clients and institutionalise it through strategic documents and operational procedures achieve substantially higher levels of actual, rather than merely declarative, client involvement. Overcoming these barriers requires systemic organisational change, including staff training in partnership-building, the establishment of participatory structures and processes (e.g., advisory councils and working groups), the allocation of sufficient time and resources for engagement, the use of accessible communication methods for individuals with diverse abilities, and the cultivation of organisational values based on respect and equality.

A trauma-informed approach is a critically important component of client-centeredness in wartime conditions. Although 67.3% of organisations are familiar with the concept, only 28.4% have implemented it systematically. The experience of SS-05 demonstrates that comprehensive changes (physical environment, organisational policies, staff training, regular supervision, the integration of peer support) reduce the risk of re-traumatisation, improve interactions with clients and mitigate staff burnout. Service personalisation represents another dimension of client-centeredness. Although 71.8% of organisations

report using individualised service plans, the actual level of personalisation varies considerably, ranging from formal adaptation within a standard program to the flexible combination of interventions, consideration of clients' strengths and circumstances, as well as the selection of evidence-based options. Digital technologies expand the possibilities for personalisation; however, their application in most organisations remains at an experimental stage.

The findings indicate that client-centred approaches and co-production significantly influence the effectiveness of management strategies in social service organisations, as the shift from a paternalistic model to genuine partnership creates conditions for greater organisational adaptability to external change and more effective functioning under resource constraints. This conclusion is consistent with international research. In particular, T. Veress (2026) demonstrated that active client participation in community-oriented organisations contributes to the development of autonomy, the strengthening of trust and improved organisational effectiveness. A similar argument was substantiated by J.A. Bourke *et al.* (2024), who emphasised that principle-based co-production substantially enhances the relevance and sustainability of rehabilitation services. The results of the present study also suggest that organisations with higher levels of client involvement demonstrate statistically significantly better service satisfaction outcomes (8.7 versus 6.9 points, $p < 0.001$), as well as a higher degree of alignment between services and clients' actual needs. These data are consistent with C. Jong & A. Ganzaroli's (2024) findings, suggesting that stakeholder involvement in the non-profit sector strengthens strategic planning, organisational adaptability and legitimacy, particularly under conditions of resource scarcity. A similar idea was presented by O. Larsson (2023), arguing that co-production enables non-profit organisations to optimise resource utilisation and enhance managerial flexibility. Therefore, co-production and client-centred approaches should be considered not only as value-based principles for organising services but also as effective strategic instruments of adaptive management. At the same time, their potential in the Ukrainian context remains only partially realised due to paternalistic cultural norms, limited resources and the insufficient development of a supportive organisational culture.

Agile practices and adaptive management under conditions of uncertainty

Agile approaches, originally developed in the technology sector, are increasingly being integrated into the practice of social service organisations, particularly in contexts characterised by high levels of uncertainty, environmental instability and the need to respond rapidly to changing client needs. At the same time, the findings indicate that awareness of such approaches remains limited among Ukrainian social service organisations. Only 15.7% of respondents reported a good understanding of agile methodologies, 38.2% had a general awareness of them, while 46.1% were not familiar with these approaches at all. Among those with at least a basic understanding, only 23.4% reported applying selected agile practices in management. The most commonly used practices include short planning cycles, regular team meetings, task visualisation, retrospectives and cross-functional teams. In this context, agile practices

shape the operational mode of work, while adaptive leadership fosters openness to change, delegation of responsibility and the continuous adjustment of decisions.

A particularly illustrative example is provided by RC-10, where a sprint-based approach was adapted to coordinate a multidisciplinary team. The team works in two-week cycles, each beginning with a joint planning meeting. During these meetings, specialists not only identify priority clients from the waiting list but also collectively agree on objectives for the upcoming period, allocate responsibilities, determine specific interventions and establish criteria for assessing interim outcomes. Daily 15-minute coordination meetings enable the rapid exchange of information regarding changes that occur between needs assessment and the actual delivery of services. To visualise the process, the team uses a status board that tracks each case through the main stages of rehabilitation, from initial assessment to the completion of the active phase and subsequent follow-up support. At the end of each cycle, the team conducts a review of outcomes and a retrospective discussion, during which members analyse not only what has been achieved but also which process-related decisions proved effective and which require modification. The team coordinator pointed out that agile approaches transformed the way the team worked, helping to overcome isolation of specialists, strengthen a shared understanding of goals and adapt more rapidly to changes in clients' conditions. As a result, the time from referral to the initiation of rehabilitation decreased from 6.3 to 2.1 weeks, client satisfaction increased by 34%, and team members reported lower stress levels and greater coordination in their work.

The findings indicate that the direct application of agile approaches from the technology sector to social service settings is problematic due to the complex and unpredictable nature of changes in clients' conditions, the difficulty of measuring intervention outcomes, irregular work schedules and the constraints imposed by regulatory and ethical requirements, as well as the tension between hierarchical organisational cultures and the principle of team self-organisation. Consequently, a contextualised application of agile models, adapted to the specific characteristics of social work, appears to be more effective. The experience of SS-09 demonstrates the appropriateness of such an approach as the organisation developed its own "Agile Social Services Framework", which combines iterative planning, operational coordination and regular process reviews while maintaining compliance with ethical standards, confidentiality requirements, and regulatory procedures.

Adaptive leadership provides the managerial foundation for this approach, becoming particularly important in conditions of uncertainty and rapid change, enabling organisations to engage in collective problem-solving, make sense of uncertainty, distribute responsibility and transform risks into a manageable learning process. Agile practices, in turn, complement adaptive leadership by both accelerating operational processes and substantially improving the quality of managerial decision-making under conditions of incomplete information and constantly shifting priorities.

Interviews with leaders of organisations that successfully adapted to wartime conditions provided a more detailed understanding of how adaptive leadership is implemented in managerial practice. In these organisations, the

delegation of authority did not imply an abstract transfer of responsibility but rather the explicit empowerment of teams to make operational decisions independently within clearly defined boundaries. For example, in several organisations, multidisciplinary teams were authorised to adjust the sequence of service delivery, reprioritise cases or modify the format of client interactions, depending on the security situation, clients' conditions or the availability of specialists. Support for bottom-up initiatives was fostered through regular brief meetings during which staff members could propose new solutions related to service logistics, communication with families, remote service delivery or collaboration with partner organisations. The most promising ideas were then rapidly tested on a small scale. Dialogue facilitation was reflected in the introduction of weekly cross-team discussions of complex cases, crisis briefings, joint error-analysis sessions and short strategic meetings, during which managers did not impose predefined solutions but instead structured discussions by clarifying problems, outlining alternatives, and identifying decision-making criteria. The ability to work with diverse perspectives contributed to the creation of a safe environment in which disagreements among professionals from different disciplines were viewed as a resource for achieving a deeper understanding of challenges, whereas leaders demonstrated strategic flexibility through the rapid revision of decisions, resources and service, as well as through the active development of partnerships with other organisations to support new ways of working.

These principles were particularly evident in the experience of the director of the relocated RC-01 centre. Following the relocation of the organisation to another region, established work plans quickly became obsolete and management abandoned attempts to centrally control all processes. Instead, daily coordination meetings were introduced to identify the most pressing challenges, align priorities for the immediate future and allocate areas of responsibility among team members. Decisions regarding the admission of new clients, adjustments to work schedules, communication with families and the establishment of temporary partnerships were made directly by on-site teams. According to the director, her role shifted from a provider of answers to a facilitator of collective problem-solving and the creation of the environment of trust and support enabled the team to demonstrate a substantially higher level of initiative and creativity than under normal circumstances.

The combination of adaptive leadership and a learning culture is a foundation of adaptive management in rehabilitation centres and social service organisations. Adaptive leadership enables organisations to make sense of uncertainty, distribute responsibility and transform risks into a manageable process of collective learning. At the same time, a learning culture is fostered through the legitimisation of small-scale experimentation, regular supervision, discussions of complex cases, communities of practice and the systematic documentation of lessons learned. In the organisations included in the study, these approaches were implemented through pilot testing of new service formats, the temporary introduction of digital coordination tools and the trial implementation of modified client support pathways without penalising failure, provided that ethical and safety standards were maintained.

The above-mentioned trends are consistent with international research. For example, T. Veress (2026) demonstrated that, in community-oriented organisations, ethical innovation based on the active involvement of clients contributes to the development of autonomy, the strengthening of trust, and improved managerial effectiveness. A similar position was substantiated by J.A. Bourke *et al.* (2024), emphasising that principle-oriented co-production enhances the relevance and sustainability of rehabilitation services. At the same time, only 34.2% of organisations in the conducted study rated their level of client involvement as high, indicating a considerable gap between current practices, which are increasingly regarded internationally as a core criterion of effective social service management. This relationship is further supported by the findings of O.S. Larsson (2023), C. Jong & A. Ganzaroli (2024), who argued that active co-production enables non-profit organisations to respond more effectively to changing needs, optimise the use of limited resources and enhance the adaptability of management strategies. In turn, H. Härkönen *et al.* (2024) demonstrated that digitalisation combined with co-production has a positive impact on coordination and social service quality. This approach is particularly important for contemporary social service organisations as it enables them to combine organisational flexibility with a more accurate understanding of client needs and the timely adjustment of support services. The established relationship between client-centeredness and the nature of strategic leadership is equally important. A. Rousaki *et al.* (2024) and H. Melkas *et al.* (2025) proved that the successful implementation of a client-centred approach requires strong strategic leadership capable of fostering a culture of trust, participation and continuous learning. These findings suggest that co-production should not be viewed merely as a set of procedures or engagement tools but rather should be institutionalised as a guiding management principle supported through organisational culture, strategic decision-making and everyday practices. Therefore, the potential of the client-centred approach in Ukrainian social service organisations is only partially realised due to the persistence of paternalistic norms, resource constraints and the insufficient development of strategic leadership capacities.

Quality management: from compliance control to a culture of excellence

Quality management systems are evolving from mechanisms focused primarily on compliance with formal requirements toward comprehensive approaches centred on continuous improvement. Although 87.3% of organisations have some form of quality assurance mechanism, their scope and effectiveness vary considerably. The most common elements include internal service delivery protocols, client satisfaction surveys, internal audits, complaint-handling mechanisms and supervision practices; 31.7% of organisations have external accreditation or certification, while only 8.3% report the use of international quality standards. At the same time, contemporary quality management is increasingly moving beyond a narrow compliance-control function and becoming integrated with broader managerial innovations, including process digitalisation, data-driven decision-making, client-centred service design, agile team coordination practices and the development of a culture of organisational learning. Under these conditions, quality becomes a cross-cutting management mechanism that influences planning, resource allocation, performance assessment and the continuous refinement of practices in real time, allowing for the identification of three distinct quality management models.

The first model is compliance-oriented and focuses on documentation, inspections and reporting, ensuring a minimum level of quality while providing limited stimulus for innovation. The second model is client-centred, in which quality is primarily defined through client satisfaction and outcomes, although the interpretation of such indicators requires caution. The third, excellence-oriented model, adopted by 17.5% of organisations, integrates client outcomes, process effectiveness, staff competence, financial sustainability and social impact, and is based on continuous improvement cycles. This third model is most strongly associated with managerial innovation, as it involves the use of data not only for retrospective reporting but also for the ongoing improvement of processes, the redesign of service pathways, the adaptation of management decisions, and the identification of areas of organisational risk. The quality of implementing such innovations can be assessed through several groups of indicators (Table 4).

Table 4. Assessment domains and indicators for evaluating the quality of managerial innovation implementation

Assessment Domain	Analytical Purpose	Assessment Indicators
Client Outcomes	assesses the impact of managerial innovations on service quality and changes in client outcomes	service satisfaction level; degree of achievement of individual goals; reduction in the frequency of repeat service requests; improvement in functional status; level of social integration
Process Effectiveness	captures changes in the speed, coordination and effectiveness of organisational processes	duration of the service pathway from initial contact to service delivery; average decision-making time; proportion of cases completed within the planned timeframe; number of errors; number of incidents; number of duplicated activities
Workforce Capacity	reflects staff readiness to implement innovations effectively and sustain organisational change	level of professional competence; participation in training; workforce stability; level of emotional exhaustion; involvement in continuous improvement processes
Economic Efficiency	evaluates resource efficiency and financial performance of implemented innovations	service costs; cost per case; resource utilisation rate; proportion of indirect costs; ratio of costs to achieved outcomes

Source: developed by the authors

Measuring client outcomes remains a weak area: only 38.7% of organisations systematically use standardised instruments, while others rely on observation or non-validated questionnaires. Barriers include a lack of available

and culturally adapted Ukrainian-language tools, time constraints, limited skills in data analysis and scepticism regarding the quantitative measurement of complex changes. More advanced practices involve the use of brief

standardised instruments, the integration of assessment into routine procedures, staff training in data interpretation and the combination of quantitative and individualised indicators. The integration of indicators into the management cycle is becoming more important than solely their accumulation. If measurement results are systematically analysed at the level of teams and leadership, they can be used to revise individual support plans, refine case prioritisation criteria, redistribute workload among professionals, identify inefficient procedures and adjust organisational workflows.

The findings indicate that quality management systems in most rehabilitation centres and social service organisations remain at a transitional stage of development. Approximately 73.8% of organisations have formal client safety policies, while 68.3% have adopted codes of ethics or ethical policies; however, their practical implementation remains uneven. Only 38.7% of organisations systematically use standardised client outcome measures, while the rest relies on informal observations or non-standardised assessment methods. The weak integration of collected data into managerial analysis and decision-making processes is one of the key challenges. Outcome measurement often remains an isolated technical procedure and is not used to adjust programs, refine service pathways or support innovation-related changes. In addition, there is a shortage of valid and culturally adapted Ukrainian-language assessment tools, as well as staff competencies in data interpretation and the use of evidence to improve services. A notable example of the successful transformation of a quality management system is provided by the rehabilitation centre RC-12, which obtained CARF accreditation. As the Director of Quality pointed out: "Accreditation was not the goal but a means of transformation. It changed the organisation's mindset – from 'we are doing well enough' to 'we can always do better'". During the five years following accreditation, the organisation achieved a 43% improvement in client functional outcomes, a 38% increase in service satisfaction, a 52% reduction in unplanned repeat service requests and a 27% improvement in resource utilisation efficiency.

Particularly notable is the fact that the excellence-oriented model has been adopted by only 17.5% of organisations, while the majority remain within more traditional approaches to quality assurance. These findings are consistent with international evidence suggesting that the transition to genuinely co-productive and client-centred systems is challenging not only from a technological perspective but also from a cultural one. According to D. Masterson *et al.* (2022), the conceptual ambiguity surrounding the notions of co-production and co-design creates substantial implementation challenges already at the level of definitions, as organisations often use these terms interchangeably without distinguishing between client involvement in service design, decision-making or outcome evaluation. As a result, co-production is frequently considered as a value and fails to become an operational principle of quality management. To a large extent, this may explain the findings of the present study, according to which the prevalence of certain quality assurance mechanisms is relatively high, whereas their integration into a coherent cycle of organisational learning remains limited. The

principle-oriented approach to co-production is considered an important analytical reference point in this regard and, as J.A. Bourke *et al.* (2024) argued, the quality of involvement cannot be reduced to the formal inclusion of service users but should instead be assessed through adherence to principles such as reciprocity, transparency, shared influence and respect for participants' experience. This perspective is particularly important for interpreting the findings, as the mere existence of satisfaction surveys, complaint mechanisms or consultative procedures does not guarantee a transition to the excellence-oriented model.

Only 38.7% of organisations systematically use such instruments, which suggests both a technical deficit and an incomplete transition toward evidence-based quality management. In this regard, the systematic review conducted by A. Nordin *et al.* (2023) is particularly noteworthy, as the authors emphasise that one of the major challenges facing contemporary co-production models in healthcare and social services is the shortcomings in outcome measurement and the misalignment between the stated objectives of participation and the actual criteria used to evaluate its effects. This conclusion closely aligns with the findings of the present study, as in many Ukrainian organisations data are either not collected systematically or are not transformed into an analytical resource for service improvement. As a result, measurement often remains an isolated procedure rather than a mechanism for managerial learning. S. Conquer *et al.* (2024) demonstrated that the transformative potential of co-production in integrated care is reflected not only in changing communication between professionals and service users but also in reshaping coordination processes, decision-making practices, the distribution of responsibility and the creation of value within service systems. In this sense, the findings of the present study, in which quality ceases to be a separate administrative function and instead becomes a cross-cutting mechanism of management, are fully consistent with the international trend toward integrated quality models.

It is also important to mention that contemporary quality management in the social sector is increasingly intertwined with digitalisation and new forms of client engagement. In this regard, the qualitative analysis of a digital education programme for people with multiple sclerosis conducted by R.D. Russell *et al.* (2024) is particularly informative. The authors demonstrated that positive user experiences in digital environments are determined not so much by the online format itself as by the extent to which the programme is tailored to individual needs, enables meaningful participation and provides high-quality feedback. This is particularly relevant to the present study, as digital assessment and management tools should not be viewed as an end in themselves; their effectiveness depends on the extent to which they are embedded in a client-centred service design and support meaningful client involvement throughout the management cycle. Consequently, the digitalisation of quality should be relational rather than technocratic. Another important consideration in interpreting the findings is the need to continuously align professional understandings of service quality with clients' own perspectives. This highlights the value of individualised assessment approaches, such as Goal Attainment Scaling, which make it possible to consider the

subjective experiences of service users. Thus, the transition from compliance-based quality control to a culture of excellence in rehabilitation centers and social service organisations is not possible without the integration of co-production principles into quality management systems.

Human resource management: from workforce challenges to a strategic approach

Human resources constitute the most valuable asset of rehabilitation centres and social service organisations, while at the same time representing one of their greatest challenges. The study revealed a critical situation in the field of human resource management: 71.3% of organisations reported difficulties in recruiting qualified professionals, 63.8% experienced high staff turnover, 68.9% identified professional burnout as a serious concern, 54.2% indicated insufficient staff competencies to address contemporary challenges, and 47.3% reported difficulties in retaining and motivating employees under conditions of limited financial incentives. Talent attraction is further complicated by relatively low salaries in the social sector (on average 35% lower than in the commercial sector for equivalent positions), emotionally demanding work associated with heavy workloads, limited career advancement opportunities in smaller organisations, the relatively low social prestige of social professions and shortages of specialists in certain fields, particularly rehabilitation therapists, occupational therapists, speech and language therapists, and psychologists with experience working with trauma. The war has further intensified these challenges through mobilisation, population displacement and the reorientation of a portion of specialists toward supporting military personnel and war-affected populations. Successful organisations compensate for financial limitations through a strong employee value proposition, emphasising meaningful work, social impact, opportunities for professional development, a supportive organisational culture, flexibility and a strong ethical mission. For example, organisation SS-12 developed a comprehensive recruitment strategy that included partnerships with universities and internship programmes, an employee referral programme with incentives, an active social media presence featuring employee stories, participation in career fairs and clear communication of the organisation's unique employment benefits. As a result, the average time required to fill vacancies decreased from 4.2 to 1.8 months, while the quality of applicants improved substantially.

Staff development is essential for maintaining and improving service quality in the context of rapidly changing client needs, emerging technologies and evolving best practices. However, investment in professional development remains insufficient: only 42.3% of organisations have a separate budget for staff development and average expenditure accounts for just 1.8% of the total organisational budget (compared to the international benchmark of 3-5%). The most common forms include internal training programmes (67.4%), participation in external conferences (43.7%), online courses (38.2%) and clinical supervision (51.3%). More progressive organisations are moving toward a systematic approach that includes regular training needs assessments, individualised development plans,

diverse learning formats (mentoring, on-the-job coaching, assignments involving increased levels of complexity), evaluation of training effectiveness based on knowledge, skills and job performance outcomes, and the cultivation of a continuous learning culture. Following the implementation of a comprehensive talent development system (annual competency assessments, individualised development plans, a guaranteed 40 hours of training per year, an internal academy and staff rotations), centre RC-05 increased the average competency level of its staff by 47%, reduced turnover by 52% and improved client satisfaction by 34% over a four-year period. Professional burnout remains one of the most significant threats, particularly in the wartime context. Overall, 68.9% of respondents reported moderate to high levels of burnout within their organisations. Burnout is associated with emotional exhaustion, depersonalisation, a diminished sense of accomplishment, cynicism, and increased absenteeism. Effective prevention requires a systemic organisational approach that includes realistic workloads, adequate staffing levels, greater employee autonomy, regular supervision, staff well-being programmes, flexible work arrangements, recognition of achievements and a culture of care. After introducing a comprehensive well-being programme that included mandatory monthly supervision, peer support groups, psychological counselling, yoga sessions, flexible schedules and extra holidays, organisation SS-06 achieved a 41% reduction in burnout levels, a 38% improvement in staff retention, and higher levels of job satisfaction.

Particular attention should be paid to secondary traumatisation and compassion fatigue among professionals, who work continuously with trauma-affected clients. Trauma-informed human resource management involves risk screening, psychoeducation, self-care training, reducing exposure to traumatic material, access to professional psychological support and leadership that models self-care and normalises help-seeking behaviours. Performance management is also evolving: while 64.7% of organisations conduct formal performance evaluations, only 28.3% consider them effective. A contemporary approach provides for a continuous performance management through regular progress discussions, a developmental focus, two-way dialogue, clearly defined performance criteria, multisource (360-degree) feedback, and the integration of performance assessment outcomes with learning and reward systems. At the same time, diversity, equity and inclusion are increasingly recognised as critical factors for service quality and organisational resilience. Currently, only 23.7% of organisations have clearly defined policies or initiatives in this area. Organisations that systematically promote diversity, equity and inclusion are better at attracting professionals with diverse backgrounds, generate innovative solutions through a broader range of perspectives, engage more effectively with diverse client groups and achieve higher levels of public trust. Therefore, the further development of such approaches should be regarded as a strategic priority for Ukraine's social service sector.

Financial management and resource sustainability

Financial sustainability remains one of the most significant challenges facing rehabilitation centers and social service organisations. According to the survey findings, only 31.8%

of managers defined their organisation's financial situation as stable, while 52.7% described it as unstable with periodic difficulties and 15.5% characterised it as critical. Public and municipal organisations remain largely dependent on government funding, which accounts for an average of 78% of their revenue, while non-governmental organisations rely heavily on grants from international donors (43%) and national foundations (27%). The study revealed a clear relationship between the level of funding diversification and an organisation's financial sustainability. Organisations with a high concentration of funding from a single source (more than 70%) are 4.2 times more likely to experience a financial crisis when donor priorities change or budget allocations are reduced. By contrast, organisations with diversified funding portfolios (four or more funding sources) demonstrate substantially greater resilience.

An example of a successful transformation is provided by organisation SS-10, which over a five-year period transitioned from almost total dependence on a single international donor (87% of its budget in 2019) to a diversified funding model. Through the development of individual fundraising, the acquisition of government service contracts and the launch of social enterprise initiatives, the organisation increased its financial base by 67% and successfully managed the loss of its primary donor. The findings suggest that strengthening resource sustainability requires a systematic shift from episodic fundraising efforts to strategic resource management. The most effective practices include diversifying revenue sources, strengthening fundraising capacity, implementing scenario-based budgeting, establishing financial reserves, and integrating social entrepreneurship as a stable source of earned income. Particularly important in the wartime context is the ability to rapidly adapt programmes to emerging needs (such as the rehabilitation of injured persons and support for internally displaced persons) while maintaining financial discipline and transparency.

Partnerships and cross-sector collaboration

Partnerships among organisations from different sectors (non-governmental organisations, public institutions, private-sector entities, academic institutions) represent an important mechanism for enhancing the reach, quality and effectiveness of social services in contexts characterised by limited resources and complex challenges. The study revealed that 78.3% of organisations engage in some form of partnership; however, their depth and effectiveness vary considerably. The most common form remains informal partnerships established for occasional collaboration (58.7% of organisations), including client referrals between organisations, joint events and information sharing. Formalised partnerships based on written agreements, shared objectives and clearly defined roles are practiced by 43.2% of organisations. In contrast, deep strategic alliances characterised by resource integration, joint planning and coordinated service delivery remain relatively uncommon (14.7%). With regard to partner types, organisations most frequently collaborate with other NGOs operating in the social service sector (71.3% of respondents), public social service agencies (63.8%), healthcare institutions (58.4%), educational institutions (47.2%), local authorities (43.7%), private companies through corporate social

responsibility (CSR) programmes (31.8%) and international organisations (28.4%).

The motivations for establishing partnerships are multidimensional and include expanding clients' access to services through referrals and coordination (76.8%), pooling resources and expertise to implement projects that would be difficult to undertake independently (68.2%), improving service quality through learning and the exchange of best practices (61.4%), advocacy and policy influence through joint representation (47.3%), resource savings through shared infrastructure and joint procurement (39.7%), and strengthening legitimacy and trust through association with reputable partners (34.2%). Organisation SS-04 serves as the coordinating hub of a network comprising 12 organisations that provide integrated services to families raising children with disabilities in the region. The network includes a rehabilitation centre, a parent support organisation, an inclusive education provider, an early intervention service, a respite care organisation, a disability rights NGO and a local social service agency. Within the network, partners have established a shared referral system, coordinated individualised family support plans (with different organisations responsible for specific components), regular inter-organisational case conferences, joint training activities and coordinated advocacy efforts directed at local authorities. As the network coordinator explained: "No single organisation can address all the needs associated with complex cases. Through partnership, we are able to provide holistic support. Families receive coordinated and continuous services and all participating organisations operate more effectively". The evaluation demonstrated that families participating in the network reported 56% higher satisfaction with the support received and achieved outcomes that were 43% better than those of families outside the network.

Partnerships face numerous challenges. The most frequent ones include differences in organisational cultures and approaches to service delivery (68.4% of respondents with partnership experience), unequal distribution of power and resources among partners (54.7%), competition for funding (particularly among NGOs, 51.2%), difficulties in coordination and communication (48.9%), conflicts of interests or objectives (43.6%), insufficient trust (39.4%), as well as bureaucratic procedures and slow decision-making processes in large organisations and public institutions (37.8%). Successful partnerships overcome these barriers through sustained investment in trust-building, which requires time and direct interaction; clear written agreements defining roles, responsibilities, contributions and expected benefits; transparent decision-making and conflict-resolution procedures; regular communication; respect for partner diversity; a focus on shared goals while acknowledging differing interests; equitable distribution of resources and recognition; effective partnership leadership (formal or informal) that facilitates collaboration and coordination across organisations.

Public and private partnerships in the field of social services, despite their considerable potential, remain underdeveloped in Ukraine, with only 18.3% of organisations reporting relevant experience. Such collaboration may take various forms, including service contracting arrangements (the government provides funding and NGOs deliver services),

co-financing of programs, transfer of public assets (e.g., facilities or equipment) to NGOs for service provision and the delegation of specific functions. The main barriers include complex and non-transparent procedures for concluding public contracts, a lack of trust between sectors, unequal competitive conditions (favouring public institutions), bureaucracy and payment delays, as well as insufficient organisational capacity of NGOs to meet formal requirements. Developing effective partnerships requires regulatory reforms aimed at simplifying and increasing the transparency of procedures, enhancing NGOs' capacity to participate in tendering processes and manage contracts, as well as fostering a shift in managerial culture within public institutions toward recognising NGOs as partners rather than as mere applicants for support or service contractors.

International partnerships and network membership provide organisations with access to knowledge, resources and global learning opportunities. According to the survey findings, 34.8% of organisations are members of international professional associations or networks, while 28.3% maintain partnerships with international organisations. The benefits include access to international best practices and research, opportunities for learning and exchange (e.g., conferences, study visits, online courses), technical assistance and expert consultation, access to international funding, as well as enhanced international visibility and reputation. At the same time, organisations face challenges, including the costs associated with membership and participation, language barriers, difficulties in adapting international practices to local contexts and time-zone differences affecting online collaboration. Maximising the benefits of international engagement requires the strategic selection of relevant networks, active participation rather than merely formal membership, adaptation of international practices to local conditions and reciprocal knowledge exchange, including the dissemination of Ukrainian experience at the international level.

Management under martial law: challenges and adaptations

The conditions of the full-scale war have become a major driver of transformation in the management of rehabilitation centres and social service organisations, resulting in increased pressure on service systems, disruption of established modes of operation and interaction, and the need for rapid managerial responses. The study revealed the multifaceted impact of the war on organisational functioning: 83.7% of organisations reported experiencing a significant or critical impact. Key challenges include threats to the safety of clients and staff (76.8% of respondents), the need for evacuation or relocation (43.2% of organisations carried out partial or complete evacuation), energy-related disruptions and power outages (89.3%), growing demand for services under conditions of limited resources (81.4%), loss of personnel due to mobilisation or migration (58.7%), the need to adapt services to new client groups (including injured military personnel and conflict-affected civilians – 67.3%), as well as trauma exposure among both staff and clients (72.4%).

During the full-scale war, evacuation, relocation and operating under conditions of constant threat became some of the most demanding managerial challenges for

rehabilitation centers and social service organisations. Organisations faced the need to rapidly evacuate clients and staff under shelling, adapt to energy-related disruptions, redesign services for new client groups (including injured military personnel and internally displaced persons), address workforce shortages caused by mobilisation, and cope with significant financial constraints. In response to these challenges, organisations implemented a range of managerial adaptations: operational adaptations – development of rapid-response protocols for air raid alerts, emergency evacuation plans, backup service locations and flexible work schedules; resource-related adaptations – transition to alternative energy sources (generators, solar panels), diversification of funding streams and rapid budget reallocation; workforce adaptations – cross-training of staff, redistribution of roles and responsibilities, engagement of volunteers and enhanced psychological support for personnel; inter-organisational and programmatic adaptations – rapid scaling up of services for military personnel and internally displaced persons, adaptation of rehabilitation programs to address combat-related injuries and PTSD, as well as active collective advocacy through coalitions.

A particularly compelling example of such adaptability is provided by RC-01, a rehabilitation centre from Mariupol, which in March 2022 successfully evacuated 78 clients and 43 staff members under siege conditions. As the director pointed out: “No management training prepares you for decisions like these. The first priority was people’s safety – all the rest was secondary”. The study demonstrated that organisational resilience was a key predictor of successful crisis response. Organisations with higher levels of resilience showed a greater capacity to adapt rapidly, maintain service continuity and even expand service provision under challenging conditions. Quantitative analysis confirmed that organisational resilience increased the likelihood of organisational survival by a factor of 4.7 and significantly contributed to service expansion during the war ($\beta = 0.58$; $p < 0.001$). Thus, the war has demonstrated that traditional management models are insufficient under conditions of uncertainty. Organisations that successfully navigate crisis conditions are those that combine adaptive leadership, process flexibility, investment in personnel and well-developed external partnerships.

Integrated model of innovative management: synthesis of findings

Based on a synthesis of the literature review, empirical research findings and expert consultations, an integrated model of innovative management for rehabilitation centres and social service organisations was developed. The model represents a holistic framework that brings together multiple innovative approaches into an interconnected system adapted to the context of resource constraints, a transitional social service system and the challenges of martial law (Fig. 3). The model is structured around four interrelated domains, each encompassing multiple components. The first domain – Strategic Leadership and Operational Governance – includes: adaptive leadership (the ability of leaders to mobilise the organisation in response to complex challenges, facilitate productive conflicts of ideas, promote experimentation and learning); a clear and inspiring mission and vision (articulation of the organisation’s

goal, desired future, core values); strategic planning that balances long-term vision with short-term adaptability (combining traditional strategic planning with agile elements); evidence-based management (the systematic use of research evidence, organisational data, professional expertise, stakeholder preferences in decision-making); and

organisational culture of learning and innovation (legitimising experimentation and mistakes as sources of learning, encouraging initiative, fostering reflective practices); a trauma-informed organisational approach (integrating an understanding of trauma into all organisational policies, procedures and practices).

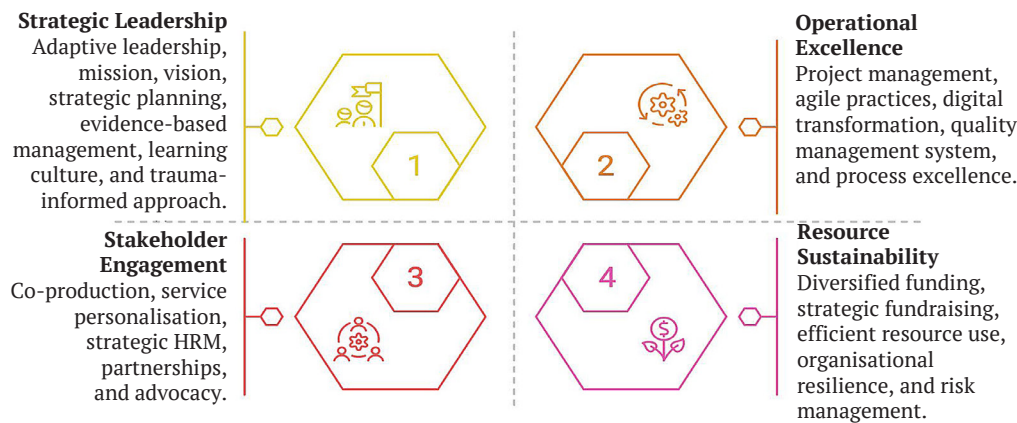


Figure 3. Integrated model of innovative management for rehabilitation centres and social service organisations

Source: developed by the authors based on a synthesis of findings from the literature review, empirical research, expert consultations

The second domain – Operational Excellence and Quality Management – encompasses: project management using appropriate methodologies (traditional, agile or hybrid approaches depending on the nature of the project); agile practices that enhance flexibility and responsiveness (iterative processes, work visualisation, regular team coordination, retrospectives); digital transformation (electronic case management systems, telerehabilitation, analytics tools, automation of routine processes); a comprehensive quality management system (integrating compliance, client-centeredness, continuous improvement, outcome measurement, safety, ethics); process excellence (standardisation of processes while maintaining flexibility, waste elimination, optimisation of service delivery workflows).

The third domain – Stakeholder and Partnership Engagement – includes: co-production with clients (engaging clients as active partners in the design, delivery and evaluation of services at the individual, programmatic, and organisational levels); service personalisation (individualised approaches based on a comprehensive assessment of clients' unique needs, strengths, preferences, circumstances); strategic human resource management (talent attraction and retention, competency development, burnout prevention, employee well-being, trauma-informed HRM practices); partnerships and networks (strategic alliances with organisations across different sectors aimed at expanding service reach, integrating services, advancing shared advocacy efforts); advocacy and policy influence (using experience and evidence to inform policy decisions and enhance stakeholder representation in policy-making processes).

The fourth domain – Resource Sustainability and Adaptability – encompasses: diversified and sustainable funding (multiple revenue sources, a balance between restricted and unrestricted funding, financial reserves); strategic fundraising and resource development (building long-term relationships with donors, developing a compelling case

for support, using data and stories); efficient resource use (cost-effectiveness, process optimisation, investment in organisational capacity); organisational resilience (robust systems, adaptive capacity, resourcefulness, rapid recovery, learning through crises); risk management (risk identification, assessment, response planning, ongoing monitoring, including security-related risks in the context of war).

The identified domains are interrelated and mutually reinforcing. Adaptive leadership (Domain 1), for example, creates the organisational culture necessary for the effective implementation of agile practices and digital transformation (Domain 2). Digital transformation (Domain 2) generates data that support evidence-informed management (Domain 1) while enhancing service personalisation and co-production (Domain 3). Stakeholder engagement and partnerships (Domain 3) provide valuable insights for process innovation (Domain 2) and strengthen the organisation's resource base (Domain 4). In turn, organisational resilience (Domain 4) is reinforced by adaptive leadership (Domain 1), flexible processes (Domain 2) and strong collaborative networks (Domain 3). The interaction among these domains creates a synergistic effect, enabling organisations not only to respond effectively to challenges but also to proactively evolve under conditions of uncertainty (Fig. 4). The model also identifies key conditions for the successful implementation of innovation: leadership commitment and support (innovation cannot be fully delegated and requires active sponsorship from senior leadership); staff engagement at all levels (innovation cannot be imposed from the top down and requires the support and participation of those responsible for its implementation); sufficient organisational capacity (the competencies, time and resources necessary to implement change alongside ongoing operations); a gradual approach (starting small, achieving quick wins, scaling gradually rather than pursuing large-scale transformational change all at

once); learning and support (development of new skills, technical assistance, mentoring); monitoring and adaptation (tracking progress, identifying challenges, adjusting approaches); sustained commitment (recognising that innovation requires time to become institutionalised and avoiding declining commitment following initial enthusiasm). The model further anticipates outcomes at multiple levels. At the client level, expected outcomes include improved functional and psychosocial outcomes, enhanced quality of life, higher satisfaction with services, greater alignment of services with clients' actual needs and preferences, and increased empowerment. At the staff level, expected outcomes include higher professional effectiveness and competence, reduced burnout and turnover, greater job satisfaction and a stronger sense of purpose and impact. At the organisational level, anticipated outcomes include improved service quality and effectiveness, enhanced organisational resilience and adaptability, greater financial sustainability, stronger reputation and legitimacy, and increased innovation capacity. At the system level, the model is expected to contribute to broader access to high-quality services, more efficient use of societal resources, a stronger evidence base for policy and practice and a transformation of the paradigm from a paternalistic toward a partnership-based model of social services.

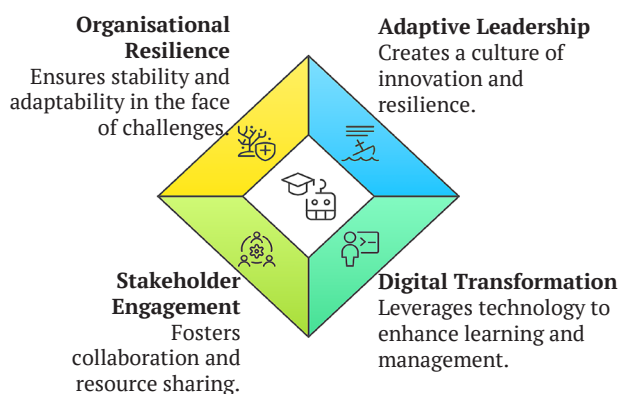


Figure 4. Cycle of interrelated domains

Source: developed by the authors based on a synthesis of findings from the literature review, empirical research, expert consultations

The validation of the model through expert evaluation (two Delphi rounds with 25 experts) revealed a high level

of agreement regarding its relevance (mean score: 8.4/10), comprehensiveness (8.1), practical applicability (7.8) and cultural appropriateness to the Ukrainian context (7.6). Experts highlighted the model's key strengths, including its holism (integration of multiple approaches rather than a single-focus perspective), balance between universal principles and contextual adaptation, strong practice orientation and recognition of resource constraints and wartime challenges. The main recommendations for further refinement included a stronger emphasis on specific implementation tools and procedures, the development of differentiated guidance for organisations of varying sizes and types and greater attention to change management, and resistance to change. These recommendations were incorporated into the final version of the model and its accompanying practical tools. Acknowledging the gap between knowledge of innovative approaches and their practical implementation, the study developed a set of practical instruments to support rehabilitation centres and social service organisations in transforming their management practices.

The diagnostic instrument for assessing organisational innovativeness enables organisations to conduct a self-assessment of their current management practices and identify priority areas for the development. The instrument comprises 87 indicators grouped according to the domains of the model: strategic leadership and governance (18 indicators), operational excellence and quality (24 indicators), stakeholder engagement (22 indicators) and resource sustainability (23 indicators). Each indicator is rated on a five-point scale (1 – the practice is not implemented; 5 – the practice is fully implemented and institutionalised), with detailed descriptors provided for each level. The results are visualised using a radar chart that illustrates the organisational profile and enables the identification of gap areas. The assessment tool also includes a set of questions on contextual factors (such as organisational size and type, available resources), allowing for the generation of tailored recommendations. Pilot testing in 18 organisations demonstrated the instrument's high practical value: 89% of participants reported that the diagnostic process helped them better understand their strengths and gaps, while 78% used the results for strategic planning. The transformation roadmap provides a step-by-step structure for organisations seeking to transform their management practices (Fig. 5).

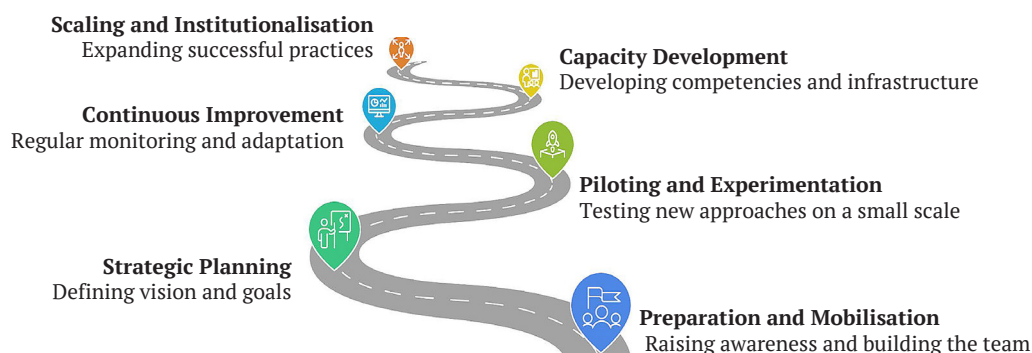


Figure 5. Management transformation roadmap

Source: developed by the authors

Methodological manuals have been developed to support the implementation of specific innovative approaches and provide step-by-step guidance for their application. The digital transformation manual covers organisational digital maturity assessment, the development of a digitalisation strategy, the selection and implementation of digital tools (such as electronic case management systems, tele-rehabilitation, analytics platforms), staff training, change management, as well as data security and confidentiality requirements. The co-production manual outlines the principles and values of the approach, methods for engaging clients at individual, program and organisational levels, tools (such as client advisory boards, co-design workshops, feedback mechanisms), approaches to overcoming barriers and methods for evaluating effectiveness. The agile project management manual adapts relevant methods to the context of social services, defines roles, key meetings, documents and provides examples of application across different types of projects. The outcomes measurement manual supports organisations in selecting appropriate assessment tools, integrating measurement into routine service delivery processes, analysing data and using findings for managerial decision-making.

Templates and checklists provide practical tools for everyday use. The individualised rehabilitation plan template structures the collaborative process of goal setting with the client, the formulation of SMART goals, intervention planning and progress monitoring. The project

documentation template, adapted to the social services sector, includes sections on stakeholder analysis, theory of change, risk management, budgeting, as well as monitoring and evaluation systems. The trauma-informed practice checklist helps professionals reflect on their interactions with clients through a trauma-informed lens, while the quality management checklist captures key elements for regular internal audits. Case studies of successful practices provide detailed documentation of organisations that have effectively implemented innovative approaches. Each case study describes the organisational context, the challenges that prompted change, the implementation process (including steps, timelines, resources, stakeholder involvement), the difficulties encountered and strategies used to address them, the outcomes achieved (both qualitative and quantitative), lessons learned, and recommendations for other organisations. In particular, case studies on the implementation of Scrum in a multidisciplinary rehabilitation team (RC-10), the transition to a co-production model (RC-07), the development of a trauma-informed organisation (SS-05) and the strengthening of financial sustainability through diversification (SS-10) are provided. Such examples enable other organisations to envision the possibility of change and identify practical pathways for its implementation, taking into account contextual factors. A training and competency development programme has also been designed for managers of rehabilitation centres and social service organisations on the basis of six modules (Fig. 6).

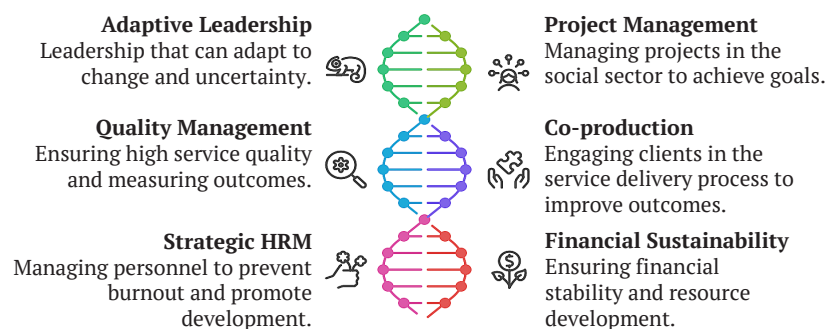


Figure 6. Training and competency development programme for managers of rehabilitation centres and social service organisations

Source: developed by the authors

Each module is designed for 16 hours and combines self-paced online learning, synchronous webinars and practical assignments; the final stage includes an applied project focused on implementation within participants' own organisations. The programme was piloted with 47 managers from 32 organisations; evaluation results demonstrated high levels of satisfaction (mean score 8.6/10), a statistically significant increase in self-assessed competencies (pre-test 5.2 → post-test 7.8; $p < 0.001$) and 83% participants implemented at least one new approach within six months. The SocialRehab Hub online knowledge exchange and peer-learning platform was developed to support a community of practice among managers of rehabilitation centres and social service organisations. The platform includes a resource library (methodological materials, research outputs, case studies, templates), a discussion forum for addressing challenges and sharing experience, a

series of webinars with invited experts and practitioners, a peer mentoring programme, as well as quarterly online conferences for presenting innovations and establishing professional networks. During its first operational year, the platform engaged 284 active participants from 189 organisations across all regions of Ukraine, held 12 webinars, established 23 mentoring pairs and organised 4 conferences. Participants highly valued the opportunities for peer learning and access to practical resources. These tools are not complete or "final"; rather, they represent evolving resources that are continuously updated based on user feedback and the emergence of new knowledge.

● CONCLUSIONS

The study revealed that Ukrainian rehabilitation centres and social service organisations operate under significant constraints. Only 23.7% of managers reported their

governance systems as modern and innovative, whereas 28.1% considered them predominantly outdated. The most common challenges include limited funding (87.4%), shortage of qualified personnel (71.3%) and high levels of professional burnout (68.9%). Digital transformation remains uneven, with case management systems implemented in only 34.8% of organisations, CRM systems in 28.7% and analytical tools in 22.3%. At the same time, organisations actively using digital tools demonstrate 38% higher client satisfaction and 31% better interprofessional coordination.

Project management practices are also applied in a fragmented manner, with only 28.3% of organisations using formalised methodologies. Agile approaches demonstrate higher effectiveness in projects characterised by uncertainty, whereas traditional waterfall models remain more suitable for technical initiatives. Organisations with well-developed project management competencies achieve a 58% project success rate. Co-production and client-centred approaches remain largely declarative, with client involvement at programme and organisational levels implemented in only a limited number of institutions. Risk management and financial sustainability require substantial strengthening, particularly in the context of martial law.

The developed integrated model of innovative management combines digital transformation, adaptive project

management, data-driven decision-making, co-production and strategic human resource management. Pilot implementation confirmed its practical value and its ability to enhance organisational effectiveness under resource-constrained conditions. The prospects for further research include longitudinal tracking of the model's effectiveness, comparative analysis of client outcomes across regions, as well as the development of standardised tools for assessing innovation capacity and organisational resilience in rehabilitation centres and social service organisations.

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● CONFLICT OF INTEREST

None.

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Проектні рішення та інноваційні підходи в управлінні реабілітаційними центрами та закладами надання соціальних послуг

Ніна Тверезовська

Доктор педагогічних наук, професор
Національний університет біоресурсів і природокористування України
03041, вул. Героїв Оборони, 15, м. Київ, Україна
<https://orcid.org/0000-0002-0672-9308>

Маркус-Артур Лаунер

Доктор економічних наук, професор
Університет прикладних наук Оствалья
29556, вул. Герберта-Маєра, 7, м. Зудербург, Німеччина
<https://orcid.org/0000-0001-9384-0807>

Ірина Демченко

Доктор педагогічних наук, професор
Національний університет біоресурсів і природокористування України
03041, вул. Героїв Оборони, 15, м. Київ, Україна
<https://orcid.org/0000-0003-4302-7564>

Дар'я Супрун

Доктор педагогічних наук, професор
Національний університет біоресурсів і природокористування України
03041, вул. Героїв Оборони, 15, м. Київ, Україна
<https://orcid.org/0000-0003-4725-094X>

Тетяна Григоренко

Доктор педагогічних наук, професор
Національний університет біоресурсів і природокористування України
03041, вул. Героїв Оборони, 15, м. Київ, Україна
<https://orcid.org/0000-0002-4616-6853>

Анотація. Безпрецедентні виклики воєнного стану, обмежені ресурси, зростаючі потреби населення та системна трансформація соціальної сфери вимагають радикального переосмислення традиційних управлінських підходів у реабілітаційних центрах та закладах надання соціальних послуг. Метою дослідження стало концептуальне обґрунтування системи інноваційних управлінських підходів і проектних рішень для реабілітаційних центрів та закладів надання соціальних послуг з урахуванням сучасної української специфіки. Дослідження базувалося на змішаній методології, що включала систематичний огляд літератури, аналіз нормативно-правової бази, якісні кейс-стаді, кількісне опитування 247 респондентів з 183 організацій, експертну валідацію моделі методом Delphi. Результати виявили критичні прогалини у сучасних управлінських практиках: лише 23,7 % організацій оцінили свою управлінську систему як інноваційну. Основні виклики включають обмежене фінансування (87,4 %), брак кваліфікованого персоналу (71,3 %), професійне вигорання (68,9 %), адаптацію до воєнних умов (64,2 %). Дослідження систематизувало міжнародний досвід та українські практики у восьми ключових напрямках: цифрова трансформація, проектне управління, співвиробництво з клієнтами, Agile-практики, управління якістю, стратегічне HRM, фінансовий менеджмент, партнерства, управління в умовах війни. На основі синтезу результатів розроблено інтегровану модель інноваційного управління, що поєднує чотири взаємопов'язані домени: стратегічне лідерство та управління, операційну досконалість та якість, залучення стейкхолдерів, ресурсну стійкість. Модель валідована експертами та адаптована до контексту обмежених ресурсів та воєнних викликів. Створено комплекс практичних інструментів впровадження: діагностичний інструмент, дорожня карта трансформації, методичні посібники, шаблони, навчальна програма. Дослідження продемонструвало, що організації з високим рівнем інноваційності управління досягають на 38 % вищої задоволеності клієнтів, на 43 % кращої координації команд, на 52 % нижчої плинності персоналу. Організаційна життєстійкість виявилася критичним предиктором виживання в умовах кризи.

Ключові слова: соціальний сектор; людські ресурси; інтегрована модель; цифрова трансформація; фінансова стійкість; гнучкі практики; дорожня карта

Latvia's regional reform and its significance for the transformation of local government in Ukraine and Moldova in a changing environment

Natalia Shyshpanova

PhD in Economics, Associate Professor
Mykolaiv National Agrarian University
54008, 9 Georgiy Gongadze Str., Mykolaiv, Ukraine
<https://orcid.org/0000-0001-8347-5682>

Aigars Andersons*

PhD in Socio-Technical Systems Modelling
Vidzeme University of Applied Sciences
LV-4201, 4 Cēsu Str., Valmiera, Latvia
<https://orcid.org/0000-0002-9079-7097>

Lilia Chiriac

Doctor of Economics, Associate Professor
Technical University of Moldova
MD-2004, 168 Stefan cel Mare Blvd., Chisinau, Republic of Moldova
<https://orcid.org/0000-0002-4249-6871>

Irina Kormyshkina

PhD in Economics
Mykolaiv National Agrarian University
54008, 9 Georgiy Gongadze Str., Mykolaiv, Ukraine
<https://orcid.org/0009-0002-9670-2295>

Liudmyla Prohoniuk

PhD in Law, Associate Professor
Mykolaiv National Agrarian University
54008, 9 Georgiy Gongadze Str., Mykolaiv, Ukraine
<https://orcid.org/0000-0003-0376-5079>

Abstract. The study aimed to identify the preconditions, nature and consequences of the Latvian reform, as well as to assess the feasibility of applying its individual mechanisms in Ukraine and Moldova within an unstable external environment. The methodological framework of the study was based on the integration of institutional, structural-functional, regulatory-legal, comparative budgetary, spatial and comparative analysis, the method of retrospective comparison of time series, case analysis, institutional modelling, analysis of institutional compatibility and the modelling method. The study found that administrative consolidation without prior strengthening of administrative procedures does not ensure the levelling out of regional disparities. The analysis revealed that the adaptability of governance is determined by the level of coordination, human resource capacity and the integration of digital tools. The results showed

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*Corresponding author (aigarsandersons@outlook.com)



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that replicating the administrative consolidation model does not produce the same effects in different countries due to differences in the structure of local government and the resource base. In Ukraine, the constraint was not the number of territorial units, but the imbalance in administrative capacity between communities, which was exacerbated by uneven economic development. In the case of Moldova, the analysis revealed the persistence of a fragmented administrative structure, which limits the effectiveness of devolution and hinders the implementation of cohesion policy. A synthesis of the results showed that the implementation of administrative consolidation approaches in Ukraine and Moldova requires a combination of institutional strengthening, financial diversification and the development of digital governance. The practical significance is determined by the formation of an analytical framework for public authorities, think tanks and policymakers involved in reforming the system of territorial administration in Ukraine and Moldova

Keywords: administrative units; depopulation; public services; consolidation; fragmentations

● INTRODUCTION

The transformation of local government in Central and Eastern European countries in the 2020s is taking place in the context of increased uncertainty, characterised by a combination of demographic shifts, fiscal constraints, European integration requirements and security challenges. In this context, Latvia's 2021 regional reform takes on significance not only as a tool for administrative consolidation but also as an attempt at the state's structural adaptation to the new configuration of socio-economic processes. Its experience extends beyond the national case, as it provides guidelines for transformations in countries with a similar institutional legacy, particularly in Ukraine and Moldova. At the same time, these states operate under conditions of varying depths of reform and differing degrees of external pressure, which leads to heterogeneity in the outcomes of decentralisation. The combination of the military factor in Ukraine, hybrid threats in Moldova and EU integration imperatives shapes a new logic for assessing territorial reforms, where effectiveness is determined not only by economic indicators but also by the capacity for institutional resilience and crisis management.

E. Darbaidze (2024), and M. Brie (2025) dealt with the political and institutional context of the transformations in Moldova, following the complex interaction between external integration imperatives and internal structural constraints. In particular, M. Brie (2025) reconstructed the dynamics of the process of European integration, showing that the progress in the direction of EU-membership was conditioned by the joint influence of geopolitical pressure and a fragmented identity structure in society. Within this framework, it was established that regional imbalances and politically sensitive territories, especially Transnistria and Gagauzia, complicated not only the administrative unification but also the pace of reforms implementation. At the same time, E. Darbaidze (2024) analysed internal barriers to modernisation, highlighting the prevalence of oligarchic practices and institutional weakness as factors preventing change. In this context, the study revealed that the formal adaptation of European models is not accompanied by adequate institutional internalisation, which reduces the effectiveness of reform initiatives. The study pointed to the institutional instability increases dependence on external actors, generating an asymmetrical model of transformation. In turn, A. Armeanic (2025) examined the regulatory and legal aspects of administrative reforms, emphasising mechanisms for harmonisation with the "acquis communautaire". The researcher argued that legal reform is accompanied by a need for financial equalisation between regions, as structural imbalances hinder the full implementation

of reforms. The study also determined that the effectiveness of legal changes depends on the state's ability to provide resource support to local levels of government.

The Ukrainian context of decentralisation reforms was explored in a study by O. Stohova (2024), which conducted a comprehensive analysis of the consequences of the administrative-territorial reform. The author found that the transformation of the territorial structure is accompanied by an increase in the financial self-sufficiency of communities, in particular through the expansion of the revenue base and the redistribution of powers. The study demonstrated that the newly formed territorial communities have become the bearers of administrative capacity at the local level, which has contributed to the institutional strengthening of the public administration system. At the same time, the study noted that the asymmetry in the economic potential of different communities has created unevenness in the implementation of delegated functions. Meanwhile, the historical and institutional dimension of Latvian transformations was examined in detail in the work of I. Reinholde (2022), which reconstructs the evolution of public administration over the long term. The researcher demonstrated that administrative changes were shaped by integration-oriented goals and, at the same time, emphasised the historical continuity of statehood. The study determined that the combination of external normative pressure and internal institutional memory ensured the relative stability of the reforms. The study emphasised that the professionalisation of the civil service serves as a resource for implementing complex administrative decisions. The restoration of agricultural infrastructure as a component of post-conflict territorial transformation was examined by A. Kliuchnyk *et al.* (2025a). The study showed that local communities are central to the reconstruction process, as they are responsible for coordinating efforts between the central government, the business sector and the public. The authors found that the effectiveness of recovery depends not only on the level of funding, but also on the ability of communities to mobilise internal resources and attract external assistance. At the same time, it was noted that, in the context of rural depopulation and migration losses, staff shortages are becoming a critical constraint on reconstruction processes.

An additional aspect of how local government operates was highlighted in a study by E. Lagzdina (2025), which analysed the specific features of implementing circular economy policies. The author found that support for preventive strategies coexists with the dominance of traditional waste disposal practices, indicating a structural imbalance

in municipal governance. The study established that mid-level instruments remain underdeveloped due to limited institutional coordination. The study also noted that the effectiveness of implementing innovative approaches depends on the availability of infrastructure and the level of public engagement. The European dimension of administrative-territorial reforms was expanded upon in a study by J. Dušek (2025), which conducted a comparative analysis of models of municipal consolidation and fragmentation. The author determined that the effectiveness of reforms is determined by the balance between economic expediency and the preservation of local identity, which was evident in various national strategies. The study demonstrated that voluntary amalgamation, supported by financial incentives, enhances the legitimacy of reforms and reduces social resistance. The study by J. Hazners (2024) used a quasi-experimental approach to assess the impact of financial equalisation mechanisms in Latvia. The author noted that the redistribution of resources contributed to an improvement in socio-economic indicators in the recipient regions, in particular an increase in gross value added and social benefits. At the same time, negative effects were observed in the donor regions, manifesting in a slowdown in economic growth and an intensification of migration flows.

Despite the volume of research, the relationship between administrative consolidation, institutional capacity and the security environment, as examined in a comparative study of Latvia, Ukraine and Moldova, has not been sufficiently systematically integrated. The study aimed to provide a comprehensive analysis of Latvia's regional reform as a tool for transforming territorial governance and to assess the potential for its adaptation in Ukraine and Moldova within a changing environment. Within the scope of this objective, the following tasks were set: to analyse the institutional design of the Latvian reform and its consequences; to identify structural constraints on decentralisation in Ukraine and Moldova; and to substantiate the possibilities for adapting the Latvian experience, based on security challenges.

● MATERIALS AND METHODS

The methodological framework of the study was designed as a sequential integration of quantitative, institutional-legal and comparative approaches to the analysis of Latvia's regional reform (2021) and its implications for Ukraine and Moldova in a changing environment, incorporating long-term trends (1990-2023) and the period 2021-2025. The initial section, devoted to a theoretical examination of Latvia's regional reform as an instrument for modernising territorial governance, was developed using institutional analysis, which was used to interpret the reform as a comprehensive transformation. The data set was based on Eurostat (2025) statistics. To analyse demographic depopulation, the method of retrospective comparison of time series for the period 1990-2023 was used. This time period was selected for a retrospective analysis of long-term demographic processes in Latvia, covering the post-Soviet trajectory of depopulation up to the 2021 administrative-territorial reform and creating a comparative basis for assessing changes in the subsequent period. The spatial analysis was conducted based on regional indicators from the Central Statistical Bureau of Latvia (2021),

using the criterion of territorial asymmetry, which involves comparing rates of depopulation between macro-regions and assessing population density as an indicator of the accessibility of public services.

The next stage of the study identified institutional fragmentation and fiscal incapacity among municipalities before the reform. To this end, a structural-functional approach was employed, which was used for an assessment of the alignment between the administrative structure and the functions performed. The source base consisted of Law of the Republic of Latvia No. 11 (2020), as well as statistical data from the Central Statistical Bureau of Latvia (2024). The evaluation criteria were the population size of the municipalities, the level of dependence on intergovernmental transfers, and investment activity. Data processing was conducted by comparing and grouping indicators for small and medium-sized municipalities, which identified structural constraints on their functioning. The analysis of the impact of European cohesion policy was conducted using the tools of multi-level institutional analysis. Policy documents from the European Commission (2021), which define the parameters of the Cohesion Policy 2021-2027, were utilised. The evaluation criterion was the administrative capacity of territorial units as a condition for access to structural funds. Methodologically, this involved comparing Latvia's national administrative structure with the requirements of the supranational level of governance, which was used to interpret the reform as an adaptation to external institutional standards.

The institutional and legal design of the reform was analysed by means of regulatory analysis, based on the text of the "Law on Administrative Territories and Populated Areas" (Saeima of the Republic of Latvia, 2020) and the subordinate legislation issued by the Ministry of Finance of the Republic of Latvia (2021). The methodology involved the dissection of the legislative provisions under the following criteria: configuration of administrative units, inter-municipal coordination mechanisms and instruments for joint service delivery. Applied also institutional modelling for the assessment of transformation of the functional distribution of powers, which was used for the correlation of national changes with the concept of multi-level governance. The section devoted to the administrative and financial effects of the reform was analysed using the comparative budget analysis method. The empirical basis was formed by data from LETA (2024) and the Central Statistical Bureau of Latvia (2025a), covering the period 2022-2024. This period was chosen to assess the immediate fiscal and administrative effects of the administrative-territorial reform in the first years following its full implementation, which was used for an analysis of the dynamics of budgetary indicators as the new administrative system stabilises. The evaluation criteria were the dynamics of tax revenues, the budget balance, and changes in the financing of public services. To identify economies of scale, the method of functional interpretation of costs was applied, which made it possible to correlate changes in the administrative structure with the efficiency of the education and social protection sectors. Amendments to the Cabinet of Ministers of the Republic of Latvia Regulations No. 376 (2022) were used to analyse the transformation of funding for the education network, whilst the case study of the multifunctional centre "Pērle"

was analysed based on European Commission (2023a), using the illustrative example method as a tool for verifying theoretical propositions. The regional asymmetry of the reform's effects was examined using the method of interregional comparison, employing indicators of gross domestic product (GDP) per capita (Central Statistical Bureau of Latvia, 2025b) and Latvian Public Media (2024). The criterion was the differentiation in economic productivity between the capital and peripheral regions. This made it possible to assess the limitations of administrative consolidation as a tool for levelling out development.

The effectiveness of the reform in a crisis environment was assessed using the case study method. The COVID-19 pandemic and the security challenges after 2022 were seen as stress tests of institutional capacity. The source base included reports of the State Audit Office of Latvia (2022; 2023). In addition, the materials of the Ministry of Smart Administration and Regional Development of the Republic of Latvia (2021a; 2021b), Central Finance and Contracting Agency Republic of Latvia (2023) have been used. The criteria of evaluation were the ability to respond to crises, the level of coordination between institutions, funding for the civil protection system and the adaptation of social services. The methodology involved a qualitative comparison of institutional responses with regulatory requirements and actual outcomes.

A comparative analysis of the territorial administration systems of Ukraine and Moldova was conducted using a comparative institutional approach. The source materials consisted of regulatory acts issued by the Cabinet of Ministers of Ukraine (Decentralization reform, n.d.) and statistical data on the administrative-territorial structure (National Bureau of Statistics of the Republic of Moldova 2026). Analytical reports by the OECD (2022) were also examined. The criteria for comparison were the number of administrative units, the level of fiscal decentralisation (the share of local expenditure in the consolidated budget and GDP), the degree of dependence on transfers, and human resource capacity. Data processing was conducted through a synchronous comparison covering the period 2021–2025, which covered the impact of the war in Ukraine on the budget structure. This period was chosen for a synchronous comparison of the budget structures of Ukraine and Moldova as it covers the period of martial law, which addressed the direct (for Ukraine) and indirect (for Moldova) economic consequences of the security crisis. Human resource capacity was analysed using an institutional approach, drawing on materials from the OECD (2023b).

The transferability of the Latvian model was analysed using the institutional compatibility method, which involved assessing the compatibility of legal systems and administrative practices. The analysis drew on the OECD (2023b). The criteria used were the level of centralisation, administrative capacity, the historical trajectory of reforms and the political context. Additionally, an analysis of the role of international partners was utilised. The source base comprised documents from the European Commission (2022a; 2025) and the European Parliament (2025). Materials from the OECD (2024) and the Ministry for Communities and Territories Development of Ukraine (2026) were also utilised. This addressed external factors supporting the reforms. The impact of the security

environment was examined through the integration of resilience and crisis governance approaches. The criteria used were crisis response capacity, flexibility of management decisions, and the integration of digital tools. The final section, devoted to strategic directions for adaptation, was developed using a modelling approach. The source material comprises Law of Ukraine No. 1508-VII (2014). Analytical reports from the UNDP (2022), the European Commission (2022b), and Central Finance and Contracting Agency Republic of Latvia (2023) were also utilised. In addition, materials from the OECD (2023b) were utilised. The criteria for developing the adaptation model were the phased implementation, the set of tools, the expected outcomes and the risks. Data processing involved summarising empirical observations and transforming them into a structured model that reflects the logic of transferring institutional practices.

● RESULTS

Latvia's regional reform as a tool for modernising local government

In the theoretical discourse on public administration Latvia's regional reform is regarded as a systemic institutional change that integrates the principles of territorial consolidation, fiscal decentralisation and the functional separation of powers. The regional reform in Latvia introduced in 2021 was not a stand-alone political project, but was a reaction to the cumulative effect of long-standing demographic, territorial-economic and institutional imbalances (Dahs *et al.*, 2021). Demographic dynamics was one of the triggers of the transformations: according to Eurostat (2025), the population of Latvia has decreased from 2.67 million in 1990 to 1.88 million in 2023, a decline of approximately 29.6%. The territorial asymmetry of this process is obvious: over 34% in the Latgale region, 25% in Kurzeme, while the Riga metropolitan region showed relative stability. This spatially uneven demographic erosion has led to a decrease in population density in peripheral communities to below 10 people per km², imposing structural constraints on the effective delivery of public services (Central Statistical Bureau of Latvia, 2021).

Apart from the demographic trends, the institutional fragmentation of the local self-government system became apparent. Prior to the reform Latvia had 119 municipalities, some of them with a population of less than 5,000 people (Law of the Republic of Latvia No. 2020/119C.1, 2020). These municipalities failed to achieve the minimum efficient scale of governance, which led to a situation in which a considerable share of local budgets was used not for development projects, but for the maintenance of the administrative apparatus (Bunkus & Cane, 2024). These imbalances were compounded by the fiscal insolvency of small communities. Before the reform, Latvian municipalities depended on intergovernmental transfers, which limited their autonomy in decision-making. This model of financial dependence was associated with low levels of investment activity at the local level that, in turn, aggravated regional disparities (Central Statistical Bureau of Latvia, 2024).

Another external factor was the transformation of the EU's cohesion policy. The European Commission (2021) in the programming period 2021–2027 pointed out the need

to strengthen the administrative capacity of local authorities as a prerequisite for the effective absorption of structural funds. This meant that in the context of Latvia, preservation of an excessively fragmented system of local self-government restricted access to funding and reduced the effectiveness of infrastructure and socio-economic programmes. Hence, the reform was not only an internal necessity but also a response to the institutional requirements of supranational governance.

The institutional and legal framework of the reform was formalised through the adoption of the Administrative Territories and Populated Areas Law, which took effect in 2021 and established the new configuration of the administrative-territorial structure (Saeima of the Republic of Latvia, 2020). One element of this was the consolidation of municipalities: their number was reduced from 119 to 43, accompanied by an increase in the average population size of each municipality. This configuration was designed to achieve economies of scale, thereby optimising administrative costs and improving the quality of public services. Changes in the administrative structure were accompanied by the introduction of new mechanisms for inter-municipal coordination. The role of planning regions as platforms for strategic planning and coordination of infrastructure projects was strengthened. At the same time, joint service delivery tools were introduced, which can be used by several municipalities to pool resources to perform administrative functions, particularly in the areas of education, social protection and digital governance (Ministry of Finance of the Republic of Latvia, 2021).

The transformation of the functional distribution of powers has become another key element of the reform. There has been a clearer demarcation of responsibilities between the central and local levels, which has reduced the duplication of functions. Municipalities were granted expanded powers in the areas of economic development, education management and spatial planning, whilst retaining responsibility for basic social services. This approach aligns with the concept of multi-level governance, which entails the vertical integration of policies whilst preserving the autonomy of sub-national actors (Hooghe & Marks, 2021). In summary, the preconditions for reform in Latvia were shaped by interrelated demographic and fiscal-institutional factors, whilst its institutional design reflects a drive to achieve structural efficiency through consolidation, coordination and the redistribution of powers. At the same time, a distinctive feature is the integration of national transformations into the broader context of European cohesion policy, which determines not only the direction of reforms but also the criteria for their evaluation.

The managerial and financial implications of Latvia's administrative-territorial reform following 2021 are not manifested as a linear effect of consolidation, but rather as a multidimensional transformation of institutional capacity, encompassing budgetary, organisational and service-related aspects. For example, the consolidation of municipalities has created the conditions for a reallocation of resources from administrative overheads to functional expenditure; however, this process is accompanied by spatial differentiation of effects (Ketners & Petersone, 2024). In this context, the mechanism involves not only a reduction in the size of the

administrative apparatus but also the centralisation of back-office functions (accounting, IT, procurement), which creates an effect of operational consolidation. Changes in budgetary decentralisation reflect a more complex trajectory. Although formally the level of financial autonomy has not undergone a radical revision, the structure of municipal revenues has transformed. In 2022–2024, there was an increase in tax revenues to local budgets: by the end of 2023, municipal tax revenues exceeded the target by 5.6%, and personal income tax receipts rose by 6.1% compared to 2022 (LETA, 2024). In 2024, local budgets ended the year with a surplus of 68.6 million EUR (Central Statistical Bureau of Latvia, 2025a). This positive trend is not solely the result of fiscal changes but reflects an expansion of the tax base of the enlarged municipalities, which have gained greater economic opportunities.

The economies of scale resulting from the administrative-territorial reform are also evident in the public services sector, particularly in education. The consolidation of municipalities has created the conditions for optimising the school network and improving the efficiency of budget spending. According to estimates, Latvia spends more per pupil than Estonia, which is explained by the inefficient structure of the school network, which requires optimisation (Amendments to the..., 2022). The move to “funding follows the pupil” has created greater transparency in the allocation of resources. At the same time, the reform has created new opportunities for the implementation of specialised social services. For example, the multifunctional social services centre “Pērle” in Cēsis region, established with the support of the European Regional Development Fund (over 1 million EUR) and the European Social Fund (over 9 million EUR), provides services to support independent living for people with psychosocial and intellectual disabilities (European Commission, 2023a). This example illustrates that the effect of consolidation is not only cost savings but also the possibility of creating specialised services that previously were unavailable to individual small communities.

At the same time, the results of the reform reveal marked regional disparities. Economically developed areas integrated into the Riga functional zone have benefited most from the consolidation, thanks to their well-developed tax base and infrastructure. In contrast, peripheral regions, particularly the Latgale region, continue to face constraints linked to demographic decline and low investment attractiveness. According to data from the Central Statistical Bureau of Latvia, in 2023, GDP per capita in the Riga region stood at 30,440 EUR, the highest figure among the country's regions, whilst in the Latgale region this figure was only 11,536 EUR. Thus, the level of economic productivity in the capital region exceeds the corresponding figure in the Latgale region by a factor of 2.6 (Central Statistical Bureau of Latvia, 2025b). According to Latvian Public Media (2024) estimates, Latvia's overall GDP per capita in 2023 was 29% below the EU average, indicating regional disparities at both national and European levels. This suggests that administrative consolidation does not automatically level out regional disparities, but requires additional development policies. A summary of the transformation parameters before and after the reform is presented in Table 1.

Table 1. A comparative analysis of Latvia's administrative-territorial structure before and after the reform

Indicator	Before the reform (up to 2021)	After the reform (2021-2025)	An analytical interpretation of the transformation
Number of municipalities	119	43	Reducing the number of administrative units by more than half marked a shift from a fragmented model to a consolidated system of governance focused on the functional capacity of local areas
Type of administrative structure	Small municipalities with a limited tax base	36 enlarged municipalities (novadi) and 7 state cities (valstspilsētas)	An institutional distinction emerged between urban centres and the periphery, enabling the development of different governance models for different types of territories
Middle management	High variability (1-24,000 people)	Larger and more uniform units	Addressing substantial disparities in the size of local authorities has reduced inequalities in access to services and laid the groundwork for standardising governance
Administrative capacity	Some municipalities failed to provide basic services (only 14 out of 119 had access to jobs for ≥50% of the population)	Focus on "economically viable" communities (following the reform, 30 out of 43 municipalities will have access to jobs for ≥40% of the population)	The reform was specifically aimed at eliminating underperforming units that were unable to conduct their statutory functions
Organisation of public services	Fragmented, with overlapping functions	Consolidated, with potential for network optimisation (schools, healthcare)	Consolidation has paved the way for the reorganisation of infrastructure and the reduction of inefficient costs through economies of scale
Financial capacity	Limited tax revenues in small communities	In 2024, local budgets ended the year with a surplus of EUR 68.6 million	Expansion of the territorial and economic base, as well as the change in the mechanism for allocating personal income tax (75% to local authorities, 25% to central government), has increased the potential for self-financing, although regional disparities have persisted
Spatial control logic	Administrative-historic	Functional-economic (formation of clusters based on transport and industrial concentration)	Transition to a model characterised by economic links, population mobility and infrastructure hubs
Institutional role of local authorities	Limited capacity to implement policies	Expanded powers, but with the risk of the government becoming detached from the public due to reduced representation	Role of the local level as an entity within the public administration has been strengthened; however, to compensate for the reduction in representation, a new body – the residents' council – has been established

Source: compiled by the authors based on OECD (2019; 2023a), Saeima of the Republic of Latvia (2020b), Law of the Republic of Latvia No. 11 (2020), Ministry of Smart Administration and Regional Development of the Republic of Latvia (2021a), J. Radzevics (2023), Central Statistical Bureau of Latvia (2025b)

The changes involved not only a reduction in the number of administrative units, but also a shift in the very logic of territorial governance. Before the reform, the Latvian system was characterised by a high degree of fragmentation, which directly affected the ability of municipalities to perform their basic functions. The reform was followed by institutional standardisation. The consolidation resulted in units that were more uniformly scaled, which guaranteed the standardisation of administrative procedures and greater predictability of management decisions. It takes place in the framework of the EU multi-level governance where municipalities are policy implementers and have to follow equal standards. However, the transformation is not linear at the same time. Another effect that comes about along with the strengthening of administrative capacity is the movement of the centre of governance towards urbanised areas. The challenge of the reform is the balance between effective governance and the preservation of local identity. Consolidation has the economic logic of governance but may be at the same time weakening the social integration at the local level. Another point is the functionalisation of territories. The

reform is based on the assumption that administrative boundaries should correspond to the real flows of population, labour and services. That means a shift from historically constituted units to the economic geography of the territories. The same can be done for the integration of transport, education and social infrastructure planning in one system. But structural imbalances have yet to be fully dealt with. Demographic decline and concentration of economic activity in the vicinity of Riga maintain significant regional disparities. This indicates that administrative reform by itself is not sufficient as an instrument for levelling out development and should be accompanied by regional growth policies.

To summarise the post-reform configuration of Latvia's administrative-territorial system, it is necessary to apply a structural-functional model that reflects the interrelationship between the three components of governance. Within this model, the system functions as a linear-cyclical interaction between institutional consolidation, the organisation of public services and the provision of resources to territories. The basic logic of the model is presented in Figure 1.

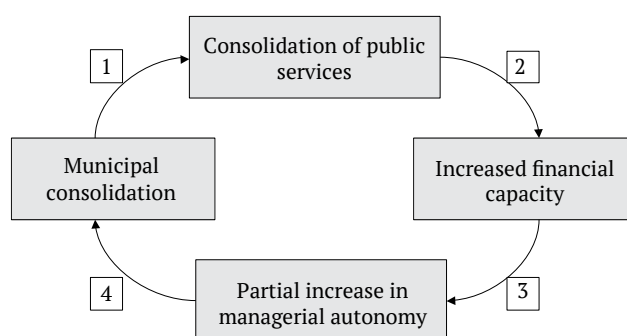


Figure 1. Structural-functional model of control components

Source: compiled by the authors based on Saeima of the Republic of Latvia (2020), Law of the Republic of Latvia No. 11 (2020), Amendments to the Cabinet of Ministers of the Republic of Latvia Regulations No. 376 (2022), European Commission (2023a), Central Statistical Bureau of Latvia (2025b)

In this framework, the first element (consolidation) serves as a structural prerequisite, reducing the fragmentation of the administrative system and creating larger administrative units. The second element (consolidation of services) reflects the functional level of the model, where the education, social services and infrastructure networks are optimised through economies of scale. The third element (financial capacity) captures the resource outcome, which manifests itself in the expansion of the tax base and the growth of local budget revenues. The final element (partial autonomy) reflects the limited feedback effect of the system, as financial independence grows but remains dependent on the state level. Overall, the model demonstrates not linear decentralisation, but a closed adaptation mechanism in which administrative consolidation triggers successive functional and financial changes, yet does not eliminate vertical dependence. This configuration can be used to interpret the reform as a transition to a managed multi-level system with partial functional autonomy for territories.

Assessing the effectiveness of reform in a changing environment reveals further dimensions of its performance. The COVID-19 pandemic (2020-2023) served as the first stress test for Latvia's administrative system. The emergency exposed the weaknesses of Latvia's decentralised civil protection system, where many institutions are involved in management but none bear responsibility, and the search for the most suitable crisis management model continued throughout the pandemic (State Audit Office of Latvia, 2022). At the municipal level, the crisis highlighted the need to adapt social services: social workers were forced to switch to more flexible, remote forms of work, and new crisis support measures for families with children were introduced at the local level. At the same time, an academic analysis of Latvia's institutional response to the crisis showed that the government managed to avoid serious functional breakdowns (Šteinbuka *et al.*, 2022). After 2022, security challenges linked to regional instability heightened the significance of institutional resilience. A state audit found that the civil protection system is underfunded (EUR 6-8 million is required annually for state material reserves, which have not been allocated for at least four

years), and the last nationwide civil protection exercises were held as far back as 2016. In this context, the administrative-territorial reform has laid the groundwork for more consolidated governance, notably through investment in road infrastructure (EUR 91.9 million in 2021) to improve access to administrative centres and public services (Ministry of Smart Administration and Regional Development of the Republic of Latvia, 2021b), as well as through the Recovery and Resilience Fund's plans, which aim to reduce territorial disparities by improving access to social services and employment in the regions (Central Finance and Contracting Agency Republic of Latvia, 2023).

At the same time, critical assessments highlight the risks associated with the reform. The reduction in the number of municipalities decreased residents' representation on local councils, resulting in the government becoming more distant from the population and alienating them (Radzevics, 2023). As a compensatory mechanism, a new institution – the residents' council – was introduced on 1 January 2023; however, it is merely an advisory body with limited powers and cannot replace local self-government. Local authorities do not ensure citizen participation in many matters, especially in the search for solutions, the development of projects and the assessment of the impact of decisions taken, which leads to poor-quality administrative decisions (State Audit Office of Latvia, 2023). In addition, the reform was accompanied by limited consultation with communities and a reduction in the budgetary autonomy of municipalities, which remain overly dependent on state funding and targeted grants, thereby limiting their ability to effectively address local priorities, according to international monitoring reports by the Congress of Local and Regional Authorities of the Council of Europe (Latvia – monitoring report, 2024). Thus, the administrative and financial effects of the Latvian reform are ambivalent. On the one hand, there has been an increase in administrative and fiscal capacity, cost optimisation and an improvement in service quality. On the other hand, regional disparities and social challenges associated with centralisation persist. The conditions of the pandemic and security instability have demonstrated that larger administrative structures are more adaptable, yet their effectiveness depends on the ability to combine institutional rationalisation with mechanisms for local participation and representation.

Implications of the Latvian experience for governance reform in Ukraine and Moldova

A comparative analysis of local government systems in Latvia, Ukraine and Moldova has revealed not only differences in formal institutional structures, but also variations in the extent of decentralisation processes, fiscal autonomy and the human resource capacity at the sub-national level. These differences are the consequence of historical development paths, the extent of integration in European institutions and the intensity of reforms in 2015-2025. After the completion of the 2020 decentralisation reform (Decentralization reform, n.d.), Ukraine's system of territorial governance is based on a three-tier model: communities (1,469 territorial communities as of 2024), expanded districts (136) and regions (24 + the Autonomous Republic of Crimea *de jure*) (Buyukeren, 2025). At the basic level, this model is characterised by a high degree of horizontal

consolidation, bringing it closer to the Latvian approach after 2021. At the same time, Moldova is characterised by a more fragmented structure: 32 districts, 13 municipalities, 54 towns and 915 rural settlements (communes) as of 1 January 2025 (National Bureau of Statistics of the Republic of Moldova, 2026). This configuration is one of partial territorial reform and the retention of small administrative units with low capacity.

The financial dimension of decentralisation in Ukraine and Moldova can be sufficiently analysed through the share of general government expenditure at the local level. In 2021, local budget expenditures accounted for some 34-36% of the consolidated budget, which is approximately 10-11% of GDP (OECD, 2022). This attests to the rather high level of fiscal decentralisation achieved as a result of the reform in 2015-2020. At the same time, the financing structure changed in 2022-2024: the share of intergovernmental transfers increased due to war-related expenditure, which reduced the real autonomy of local authorities despite the preservation of formal indicators (Bedriy *et al.*, 2025). Moldova has a similar, but lower indicator. The share of local expenditure is of the order of 20-25% of total public expenditure, which is of the order of 7-8% of GDP. Local authorities' revenues are still limited and less than half of their budgets, showing a dependence on central funding and little fiscal autonomy (OECD, 2023b). In this case, the significance of the Latvian experience for Ukraine and Moldova is not in the level of indicators as such, but in the structural balance of the system. Ukraine has a high degree of decentralisation in terms of expenditure parameters, but still has interregional asymmetry and dependence on transfers in crisis times. On the contrary, Moldova is marked by institutional fragmentation and weak local budgets which affect the effective implementation of devolved powers. This indicates that quantitative indicators of decentralisation are not sufficient, in themselves, to reflect the real capacity of the local level to develop autonomously.

Several studies treat the human resource capacity of local authorities in Ukraine and Moldova as one of the limiting factors of the effectiveness of decentralisation, but

this assessment is made not via formal educational indicators but via the ability of institutions to perform expanded management functions. As for Moldova, the report of the OECD (2023b) indicates that local authorities lack qualified staff, especially in the areas of financial management and strategic and project management, which limits their ability to implement public policies at the local level. Similarly, it is mentioned that the limited number of administrative units makes it difficult to build a professional workforce because resources are still scattered. The staffing dimension takes a different form in Ukraine: decentralisation reform created institutionally capable communities. But the problem is the uneven distribution of administrative capacity across communities, which is most visible in rural areas and communities with a limited economic base (Patyka *et al.*, 2023). Thus, even with formally expanded powers, not all communities are able to exercise them equally effectively, in particular in the areas of budget planning, attracting investment and rehabilitation of infrastructure.

In this sense, the process of European integration can be seen as an institutional catalyst for change as it involves not only the harmonisation of legislation but also the improvement of public administration. The strengthening of administrative capacity at the local level is needed for the effective implementation of the EU *acquis*, including the management of European funds and the implementation of sectoral policies (Nakrošis *et al.*, 2023). Accordingly, the human resources component of the transformation takes on systemic significance, as it determines the actual, rather than merely declarative, capacity of territorial units to function within a multi-level governance framework. Thus, in Moldova, the human resources problem is structural in nature and linked to the fragmentation of the governance system, whereas in Ukraine, it is manifested in the form of territorial asymmetry of capacity. This reinforces the conclusion that the effectiveness of decentralisation is determined not only by the scope of devolved powers, but by the ability of local institutions to ensure their high-quality implementation. The transformation of territorial governance in Ukraine and Moldova is shown in Table 2.

Table 2. Comparative analysis of local government reform in Ukraine and Moldova (2021-2025)

Indicator	Ukraine	Moldova	Analytical interpretation
Model of territorial reform	Consolidation of local authorities as part of the 2015-2020 decentralisation process has been completed	Partial decentralisation without systematic consolidation of local authorities	Ukraine has transitioned to a functionally consolidated model, whilst Moldova retains a fragmented system
Number of basic administrative units	1,469 local authorities	898 mayors	There has been a significant reduction in the number of small units in Ukraine, whilst small-scale management prevails in Moldova
Administrative structure	Three-tier system: community – district – region	Districts – boroughs – municipalities	The Ukrainian model is more standardised and integrated
Level of fiscal decentralisation	Share of local expenditure is approximately 34-36% of the consolidated budget	Local expenditure accounts for around 20-25% of public expenditure	Ukraine is characterised by a higher degree of financial autonomy at the local level
Financial capacity of local authorities	Expanded tax base and direct intergovernmental relations	Significant dependence on central government transfers	Moldova continues to experience a high degree of financial dependence at the local level
Organisation of public services	Development of the Centre for Administrative Services, the digitalisation of services, and the optimisation of the education and healthcare networks	Fragmented service delivery with limited digitalisation	Ukraine is demonstrating a higher level of functional modernisation in governance

Table 2, Continued

Indicator	Ukraine	Moldova	Analytical interpretation
Human resources capacity	Varies from community to community, but a professionalised local level has been established	Shortage of skilled staff in small local authorities	Fragmentation in Moldova is hindering the development of a sustainable workforce
Spatial control logic	Emphasis on functional links and service accessibility	Primarily an administrative-historical model	Ukrainian reform has partially shifted towards the functional-economic principle
Impact of the crisis environment	The war, since 2022, has transformed communities into actors in crisis management and recovery	COVID-19, the energy crisis, migratory pressures and the Transnistrian factor have exposed the weaknesses of a fragmented system	A changing environment has heightened the significance of institutional resilience at the local level
Key structural constraints	Interregional resource disparities and dependence on transfers during wartime	Administrative fragmentation and limited financial autonomy	Both systems remain vulnerable to external crises, but for different reasons

Source: compiled by the authors based on Decentralization reform (n.d.), OECD (2022; 2023b), World Bank (2022), UNDP (2022), S. Cornea (2022), Law of the Republic of Moldova No. 225 (2023), United Nations High Commissioner for Refugees (2023)

An analysis of the feasibility of transferring the Latvian model of territorial governance to Ukraine and Moldova requires consideration not only of formal institutional parameters, but also of the underlying compatibility of legal systems, administrative practices and political contexts. The consolidation of municipalities, which became a central element of the reform in Latvia in 2021, is of partial relevance to Ukraine, where similar processes have already been implemented as part of the 2015–2020 decentralisation. The Ukrainian model of voluntary amalgamation of territorial communities led to the formation of 1,469 viable communities (Treffers, 2023). Therefore, the Latvian experience is not a novelty but a confirmation of the effectiveness of the consolidation approach as a mechanism for achieving administrative and financial viability. The situation in Moldova is different, of course. The maintenance of 898 municipalities with an average population of 2,500 (Cornea, 2022) implies the absence of systematic consolidation at the basic level of government. In this context, the Latvian model can be taken as a reference point for reform, but its implementation will require adaptation to local socio-political conditions, especially the low level of trust in central government and the limited administrative capacity.

Institutional compatibility is one of the factors determining the feasibility of transfer. Latvia operates within the framework of the “*acquis communautaire*”, which provides for clear regulation of powers, financial discipline and management procedures. Ukraine and Moldova, as EU candidate countries, are gradually harmonising their legislation with European standards. This creates a regulatory framework for the partial adoption of Latvian practices, but does not eliminate gaps in law enforcement. The risks of mechanical adoption lie in the fact that institutional solutions effective in one country may lose their effectiveness in another due to differences in historical development. In the case of Ukraine, decentralisation took place in the context of a profound transformation of public administration after 2014, which shaped a specific model of interaction between the centre and local communities. The success of the Ukrainian reform is due to the combination of fiscal decentralisation with political support at the national level (Bondarenko, 2025). Thus, a blind copying of the Latvian model, without taking this context into account, could lead to institutional dysfunction. In Moldova this is even

more acute, due to the post-Soviet tradition of centralised governance and the limited experience of local financial autonomy. The weakness of local institutions in Moldova is connected not only to resource constraints but also to the poor quality of administrative procedures, estimates the OECD (2023b). This implies that convergence of local authorities without simultaneous improvement of institutional quality may not produce the expected results.

International partners are very important in this process, because they bring not only financial support, but also expert guidance for the reforms. The European Union, using the instruments of its cohesion policy and the European Commission program, finances the development of projects of local self-government in Ukraine and Moldova (2022a). In particular, the “EU4Moldova: Local Communities” project (2022–2025) supports local authorities in Moldova to enhance governance and service delivery in rural communities (European Parliament, 2025). In Ukraine, the EUroBRIDGE-UA-MD project (2025–2029) was launched in 2025 with a budget of 2 million EUR under the Cohesion Policy to strengthen the institutional capacity of border regions and prepare local administrations to implement EU cohesion policy standards (European Commission, 2025). The UNDP (2022) has programmes to support decentralisation, including in Ukraine through the “EU4Recovery” project which in 2023–2024 covered more than 100 communities, contributing to infrastructure recovery and the enhancement of administrative capacity (Ministry for Communities and Territories Development of Ukraine, 2026). For its part, the OECD (2024) provides analytical support and develops recommendations on multi-level governance so that the Latvian experience can be adapted to the specific circumstances of other countries. The rationale and priorities of territorial reforms are greatly influenced by the impact of the security environment. The role of local self-government has been transformed by the war in Ukraine from 2022 into a crucial player in crisis management. Local communities are directly involved in providing essential services in the areas of humanitarian aid, population evacuation and reconstruction of infrastructure.

Therefore, decentralisation in wartime takes on not only an economic but also a security dimension. For Moldova, the factor of a changing environment also had a systemic impact on the transformation of territorial governance, although its configuration differed from the

Ukrainian case and combined epidemiological, energy, migration and security-territorial challenges. The energy crisis of 2022-2023, caused by a sudden increase in prices for imported gas and electricity, became a destabilising factor, increasing the dependence of local budgets on central funding and limiting the resource autonomy of the municipal level (World Bank, 2022). The massive inflow of Ukrainian refugees after the start of the full-scale war in Ukraine also put a significant strain on the local governance system: in 2022, Moldova hosted one of the highest numbers of refugees in Europe in relation to its domestic population (UNHCR, 2022), which increased pressure on municipal infrastructure, the housing sector and the social security system, particularly in the border and urbanised areas. At the same time, the unresolved Transnistrian conflict is a specific source of instability for Moldova, creating a long-standing regime of asymmetric territorial governance and undermining the integrity of the public administration system. The presence of a de facto uncontrolled territory and a Russian military contingent create risks for decentralisation and the coordination of infrastructure development; the Transnistrian factor has also become more important since 2022 because of the increased regional security tensions (Douglas & Wolff, 2024).

In a context of permanent uncertainty, the need for flexible administrative models emerges. Systems that are too rigidly centralised or too fragmented are less effective than models which combine consolidation with mechanisms for local autonomy. Thus, the Latvian reform can be considered as an example of such a hybrid model, but its transfer to Ukraine and Moldova will have to be adapted to the security challenges, institutional legacies and the level of integration into the European space. Therefore, the transferability of the Latvian model is constrained by the conditions of institutional compatibility and contextual specificity. Its implementation is possible only with structural changes, together with the development of human resources, digital management tools and mechanisms of adaptation to the crises, which is of particular importance in the context of the security challenges of the 2020s.

One of the mechanisms for overcoming the limitations of administrative scale is to strengthen inter-municipal cooperation without formal merging of territorial units. Such mechanisms are implemented in Latvia by joint

institutions for service delivery and regional planning platforms after the reform in 2021. In Ukraine, there began to develop similar instruments after the adoption of Law of Ukraine No. 1508-VII (2014), and as of 2024, more than 900 cooperation agreements were signed, covering waste management, water supply, and fire safety. This approach is of particular importance for Moldova considering the high fragmentation of administrative units which makes it difficult to reach economies of scale without the creation of horizontal cooperation networks. The optimisation of administrative units on the basis of functional criteria implies the abandonment of a purely territorial approach to the formation of communities and the emphasis of economic and social ties. The consolidation of municipalities in Latvia was based on transport accessibility, the structure of the labour market and service centres availability. In Ukraine a similar logic was used to some extent during the consolidation of viable communities, but gaps in access to services persisted, particularly in rural areas (UNDP, 2022). In Moldova, the application of functional criteria could be the basis for future consolidation reforms, as the existing network of municipalities does not reflect economic realities (Law of the Republic of Moldova No. 225, 2023).

The development of digital governance forms the infrastructural foundation for improving the efficiency of local government, regardless of the size of administrative units. Latvia is among the countries with a high level of digitalisation of public services: according to the European Commission (2022b), over 84% of public services are available online. Ukraine is demonstrating rapid progress in this area through the development of the "Diya" platform, which, as of early 2025, serves 18.3 million users and offers over 120 digital services (Bulavynets *et al.*, 2026). For Moldova, digital governance is viewed as a tool for overcoming staffing and resource constraints; however, its level of implementation remains lower due to institutional barriers. The institutionalisation of multi-level governance ensures the integration of local, national and supranational levels in the decision-making process. Latvia, as an EU member state, operates within a well-developed system of multi-level governance, where municipalities are directly involved in the implementation of European programmes. The systematisation of strategic adaptation directions is presented in Table 3

Table 3. Model for the adoption of the Latvian experience to Ukraine and Moldova

Direction	Implementation stages	Tools	Expected result	Risks
Inter-municipal cooperation	identification of common needs → conclusion of agreements → creation of shared services	Cooperation agreements, joint ventures	Reduction of costs, improvement in service quality	Conflicts of interest, inequality between partners
Optimisation of units	analysis of functional links → consolidation/redistribution of powers	Spatial planning, legislative changes	Increased accessibility of services, economies of scale	Social resistance, political risks
Digital governance	development of IT infrastructure → service integration → scaling	e-services, digital platforms	Cost reduction, increased transparency	Cyber threats, digital inequality
Multi-level management	harmonisation of legislation → integration into EU programmes	Institutional coordination mechanisms	Improvement of policy efficiency, access to funding	Bureaucratic complexity

Source: compiled by the authors based on Law of Ukraine No. 1508-VII (2014), Law of the Republic of Latvia No. 2020/119C.1 (2020), S. Cornea (2022), European Commission (2022b), UNDP (2022), Central Finance and Contracting Agency Republic of Latvia (2023), OECD (2023b)

An analysis of this model shows that the adaptation of Latvia's experience is not a one-off process, but involves a phased transformation of the institutional environment. The most versatile tool is inter-municipal cooperation, which can be implemented without major structural changes. In contrast, the optimisation of administrative units requires political resources and social legitimacy, which complicates its implementation. Digital governance acts as a catalyst for change, as it can increase the efficiency of governance even whilst maintaining the existing territorial structure. At the same time, its effectiveness depends on the level of digital literacy among the population and the institutional capacity of public authorities. Multi-level governance, in turn, creates the framework for integrating national reforms into the European context, but requires a high level of coordination between different levels of government.

Consequently, the relevant aspect of Lithuania's experience for Ukraine is not the consolidation of territorial units, as the Ukrainian reform has already implemented a large-scale consolidation of communities, but rather the mechanisms for functional integration between the local, regional and central levels of government. The Lithuanian model demonstrates a higher level of institutional coherence between spatial planning, investment policy and sectoral governance, particularly in the areas of healthcare, education and transport infrastructure. Unlike Ukraine, where a significant proportion of local authorities will operate after 2022 under conditions of uneven security, demographic and financial capacity, Lithuania has established a system of regional coordination through integrated mechanisms of strategic planning and multi-level budgetary coordination. Of particular value to Ukraine is the experience of combining decentralisation with a state system of regional equalisation, where the financial autonomy of municipalities is not accompanied by a complete transfer of risks to the local level. In the context of post-war recovery, this is of fundamental importance, as the Ukrainian model is currently characterised by the significant dependence of frontline and depressed communities on transfer support. Ukraine could adopt the Lithuanian approach to establish functional macro-regions for recovery, integrate spatial planning with reconstruction policy, and create sustainable models of inter-municipal cooperation in the context of demographic decline and internal migration.

For Moldova, Lithuania's experience is particularly relevant in the context of overcoming institutional fragmentation and establishing an effective model of territorial governance amidst external security risks and structural marginalisation. The Moldovan system, on the contrary, is still characterised by a large number of mayors who are under-resourced with limited human and financial resources, unlike Ukraine where reform has already changed the basic level of governance a lot. An example is Lithuania where territorial policy combines administrative consolidation with the development of regional growth centres and the digitalisation of public services. This is relevant for Moldova in the context of population out-migration and uneven access to services. There is also the Lithuanian experience of integrating peripheral territories into a single economic and transport space via functional links, rather than administrative boundaries. This is important for Moldova,

considering the Transnistrian factor, which increases the asymmetry of territorial development and complicates the implementation of a unified state policy. Moreover, the experience of Lithuania in strategic use of the European Structural Funds in support of the regional convergence can be a potential model for Moldova in the process of EU standards adaptation, as it can be used for the combination of administrative reform with the economic modernisation of territories, rather than reducing it solely to changes in the configuration of local government bodies.

● DISCUSSION

Synthesis of the findings developed a more comprehensive interpretation of regional reforms as a process that extends beyond mere administrative consolidation. Such integration has shown that the effectiveness of territorial reforms is determined not by individual parameters, but by their interaction, where demographic structure, financial base, human resource potential and the level of digitalisation form a single system that is sensitive to external shocks. A synthesis of the study's findings revealed conceptual similarities with the propositions formulated by G. Malinovska (2020), albeit with a broader interpretative scope. In the aforementioned work, the emphasis was placed on the initial structural imbalances of the Latvian local self-government system, in particular the low population density and the limited administrative capacity of municipalities, which made it impossible to properly perform delegated functions. The present study confirmed these findings, yet demonstrated that institutional failure was not merely a consequence of demographic factors, but arose as a result of the interplay between demographic contraction, fiscal dependency and spatial fragmentation. In contrast, the author, who interpreted the reform primarily as a tool for improving efficiency, this study revealed a shift in the very logic of territorial governance – from an administrative-historical to a functional-economic one. At the same time, the results of a survey of the population of Latgale, as presented by G. Malinovska (2020), correlate with the identified risks of alienation from the authorities and loss of local identity, which were considered in the study as a side effect of administrative consolidation. Thus, empirical observations regarding the population's perception of the reform complemented the institutional analysis, confirming the need to balance the efficiency and accessibility of services.

The findings of S. Karvatska *et al.* (2023) regarding the conditions for the success of local self-government reforms in Ukraine were partially confirmed, but were interpreted in a more nuanced manner. In the aforementioned study, the factors identified were overcoming the Soviet legacy, the existence of a legal framework and human resources, as well as foreign policy considerations. The research conducted demonstrated that even in the presence of institutionally formalised decentralisation and several established territorial communities, territorial asymmetry in capacity remains a decisive limiting factor. This conclusion clarifies the position of scholars, as the problem lies not only in inherited institutional barriers but in the uneven distribution of resources and administrative capabilities among communities. At the same time, the thesis regarding the importance of human resource capacity was

confirmed, but expanded through the interpretation of human resource capacity as a functional category encompassing the ability for strategic planning and resource management, rather than merely formal qualifications. Concerning external conditions, the study demonstrated that the factor of the war after 2022 transformed the logic of decentralisation, turning it from a development tool into a mechanism for ensuring resilience, a point that was not fully reflected in the authors' work.

The findings of P. Fuhelo *et al.* (2022) regarding the financial effects of decentralisation in Ukraine are consistent with the results of this study; however, their interpretation has been further refined by taking the crisis context into account. In that study, the growth in local budgets' own revenues between 2016 and 2020 was considered an indicator of increased financial autonomy. The present study confirmed this trend, but at the same time noted its instability during the period 2022-2025, when the growing role of intergovernmental transfers, driven by military expenditure, limited the real autonomy of local authorities. Thus, the researchers' conclusions are relevant to the pre-crisis period but require adjustment to account for new macroeconomic conditions. Additionally, the study expanded the interpretation of the revenue structure, confirming the dominance of personal income tax as a source of local budget revenue whilst highlighting the risks of such dependence in conditions of economic instability. In this context, the Latvian experience was interpreted not as a model with a higher level of revenue, but as a system with a more balanced structure of financial resources.

The approach taken by A.V. Stefanita (2022) to classifying models of local autonomy in European countries demonstrates conceptual consistency with the findings of this study, but requires further clarification regarding practical implementation. In the aforementioned work, the Baltic states were considered as an example of a relatively simple administrative structure that ensures the transparency of functional autonomy. The present study confirmed this characteristic but showed that even within such a model, regional disparities persist, which are not automatically eliminated through administrative simplification. The thesis regarding the effectiveness of rapid reforms for post-socialist states received empirical confirmation using the example of Latvia, but was supplemented by the conclusion that further institutional fine-tuning is necessary following the formal completion of the reform. In the context of Ukraine and Moldova, the classification by A.V. Stefanita (2022) interpreted them as systems in a transitional state between a centralised and a hybrid model; however, the study showed that the factor driving their transformation is not the type of administrative system as such, but the level of integration into multi-level governance and the ability to adapt to security challenges.

A. Geske *et al.* (2022) Latvia's administrative-territorial reform was examined through the lens of education policy, where the consolidation of municipalities was seen as a factor that complicated the management of education networks, yet simultaneously expanded the analytical scope for assessing the quality of education at the sub-national level. The present study confirmed this duality of effects, but extended its interpretation beyond the education sector, showing that consolidation not only improved access

to aggregated data but also created the conditions for the functional standardisation of management across various public service sectors. Whilst researchers have emphasised the instrumental dimension of educational data use, this study found that a similar logic applies to other areas, notably budget planning and social services, where larger administrative units ensure greater comparability of indicators. At the same time, the findings regarding the uneven distribution of effects are consistent: the variation in the size of municipalities following the reform creates an asymmetry in administrative capabilities, which is reflected in the education sector through differences in the quality of educational outcomes, and in the broader administrative context through an imbalance in financial capacity and access to resources.

In the study by S. Horbliuk & O. Brovko (2022), local government reform in Ukraine was presented as a comprehensive process aimed at institutional streamlining, strengthening communities and establishing a capable territorial framework for public administration. This interpretation is generally consistent with the findings of the present study; however, the latter has identified the internal limitations of this model in greater detail. Whilst the researchers focused on the normative and institutional logic of the reform and its phased implementation, the present study revealed that, following the completion of administrative consolidation, the challenge was not structural fragmentation but the spatially differentiated capacity of communities. Thus, the study clarified that achieving the formal goal of consolidation did not lead to full functional convergence of communities, but instead created a new type of asymmetry that was not central to the authors' study. At the same time, the conclusions regarding the incompleteness of the reform coincide; however, in the study conducted, this incompleteness was interpreted not only as institutional but also as functional-territorial.

The analytical model developed by I. Burmester (2025), which explained Moldova's political transformation through the impact of a security crisis, provided a broader interpretation of the study's findings regarding the relationship between external shocks and institutional changes. The author's work demonstrated that the crisis caused by the Russian invasion of Ukraine accelerated the processes of democratisation and European integration in Moldova. The present study complemented this approach by showing that similar external factors influenced not only the political sphere but also the transformation of local governance. The study found that, in the context of hybrid threats, the importance of institutional resilience at the local level increases, which, in turn, heightens the relevance of municipal consolidation or cooperation. Thus, the conclusions of I. Burmester's (2025) approach regarding crisis as a catalyst for change has been extended to the realm of administrative-territorial reforms, where the security factor has begun to determine not only the political but also the administrative configuration of the state.

In the study by E. Broks *et al.* (2026), Latvia's experience of European integration was examined as an institutionally consistent process of harmonising the legal system and adapting to the "acquis communautaire", which shaped a structured reform trajectory. The study confirmed the relevance of this experience, but the focus shifted to the

limitations of its transferability to the contexts of Ukraine and Moldova. While the researchers highlighted the possibility of using the Latvian case as a benchmark for Ukraine, the results of the study showed that the context shaped by war and asymmetric security risks significantly alters the conditions for implementation. The study established that Ukraine's European integration process was unable to replicate the Latvian model linearly, as it took place under the influence of concurrent crisis processes. Thus, the authors' conclusions were refined by incorporating the factor of an unstable environment, which transformed the classical model of institutional convergence.

The study by A. Kliuchnyk *et al.* (2025b) found that the level of e-government implementation is directly correlated with the investment attractiveness of local authorities: the digitalisation of administrative services reduces transaction costs, increases the transparency of administrative decisions and creates the conditions for attracting external resources. This study confirms this thesis but extends it to the level of regional reforms in Latvia, Ukraine and Moldova. Whilst the authors emphasised digitalisation as a tool for economic development, this study has shown that digital governance also serves to adapt territorial systems to crisis conditions. Latvia, with an online service accessibility rate of over 84%, demonstrated greater resilience of administrative procedures during the pandemic and security crisis. At the same time, unlike the researchers' study, which was based on an analysis of individual communities, the present study found that the positive effect of digitalisation is negated by the persistence of administrative fragmentation (as in the case of Moldova) or territorial asymmetry of capacity (as in Ukraine). Thus, the comparison confirms that digital governance is a necessary but insufficient condition for the success of territorial reforms: its effectiveness is only realised in conjunction with institutional consolidation and the professionalisation of the workforce.

The findings of L. Jankova *et al.* (2020), which highlighted the limited potential of administrative-territorial reform to address regional disparities, have been empirically confirmed by this study, albeit on a larger scale. The researchers' study focused on the Zemgale region, where consolidation did not guarantee economic growth in the newly formed units. This study generalised this conclusion to the national level, showing that even after the 2021 reform, spatial disparities in Latvia persist and are sometimes exacerbated by the concentration of resources in the Riga functional area. The study that consolidation changed the institutional form of governance but did not eliminate structural economic differences between regions. Thus, the findings of L. Jankova *et al.* (2020) are not only confirmed but also expanded by including fiscal and administrative parameters, which can provide a more comprehensive interpretation of the reform's effects. A comparison of these studies with the results of the present analysis has shown that the Latvian reform is multifaceted, being manifested differently across various sectors and countries. This approach integrated individual sectoral and national observations into a coherent analytical framework, where the interaction of institutional reforms with demographic, economic and security processes serve as the explanatory factor.

● CONCLUSIONS

The study concluded that Latvia's 2021 regional reform constitutes an administrative consolidation and a multidimensional institutional transformation, driven by the cumulative effect of demographic decline and the fiscal unsustainability of small municipalities. The reduction in the number of municipalities from 119 to 43 and the introduction of 36 enlarged regions and 7 state cities changed the logic of territorial governance: the transition from an administrative-historical principle to a functional-economic grouping based on transport accessibility and labour markets was a novelty. The study found that the financial consequences of the reform were ambivalent: although local budgets in 2024 showed a surplus of EUR 68.6 million and tax revenues exceeded the target by 5.6%, these gains were distributed unevenly. Economically developed areas integrated into the Riga functional zone reaped the greatest benefits, whilst the peripheral Latgale region remained with a GDP per capita of EUR 11,536, which is 2.6 times lower than the capital's figure.

The Latvian model was compared with the Ukrainian and Moldovan systems, focusing on three aspects: the staffing capacity of local administrations, the role of inter-municipal cooperation as an alternative to formal consolidation, and the impact of the security environment on decentralisation. The study determined that for Ukraine, where 1,469 territorial communities were formed following the 2015-2020 reform, the main constraint was not fragmentation but the territorial asymmetry of administrative capacity: rural communities with a limited economic base are unable to exercise their expanded powers with equal effectiveness. For Moldova, which has retained 915 villages with an average population of 2,500, the Latvian experience of consolidation is recognised as relevant, but the conditions for its implementation require a prior improvement in the quality of administrative procedures, which currently remain low due to the post-Soviet tradition of centralised management. The study also showed how the COVID-19 pandemic and security instability after 2022 transformed the criteria for evaluating the reform: consolidated municipalities demonstrated greater adaptability in crisis management. Digital governance is therefore one of the key factors shaping the system: Latvia, with over 84% of services available online; Ukraine, with the "Diya" platform (18.3 million users by early 2025); and Moldova, which is only just overcoming institutional barriers, demonstrate the link between the level of digitalisation and the effectiveness of territorial reforms, regardless of the formal size of administrative units.

Thus, the Latvian reform cannot be regarded as a universal model to be replicated, and its adaptation in Ukraine and Moldova requires simultaneous consideration of functional links, human resource capacity, security threats and the level of digital maturity. Prospects for further research in this area include a comparative analysis of the long-term effects of the Latvian, Ukrainian and Moldovan models of territorial governance using panel regression methods.

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● REFERENCES

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Регіональна реформа Латвії та її значення для трансформації територіального управління в Україні та Молдові в умовах мінливого середовища

Наталія Шишпанова

Кандидат економічних наук, доцент
Миколаївський національний аграрний університет
54008, вул. Георгія Гонгадзе, 9, м. Миколаїв, Україна
<https://orcid.org/0000-0001-8347-5682>

Айгарс Андерсонс

Доктор філософії з моделювання соціально-технічних систем
Університет прикладних наук Відземе
LV-4201, вул. Цесу, 4, м. Валмієра, Латвія
<https://orcid.org/0000-0002-9079-7097>

Лілія Кіріак

Доктор економічних наук, доцент
Технічний університет Молдови
MD-2004, бульв. Штефан чел Маре, 168, м. Кишинів, Республіка Молдова
<https://orcid.org/0000-0002-4249-6871>

Ірина Кормишкіна

Кандидат економічних наук
Миколаївський національний аграрний університет
54008, вул. Георгія Гонгадзе, 9, м. Миколаїв, Україна
<https://orcid.org/0009-0002-9670-2295>

Людмила Прогонюк

Кандидат юридичних наук, доцент
Миколаївський національний аграрний університет
54008, вул. Георгія Гонгадзе, 9, м. Миколаїв, Україна
<https://orcid.org/0000-0003-0376-5079>

Анотація. Метою дослідження було визначення передумов, характеру та наслідків латвійської реформи, а також оцінка можливостей застосування її окремих механізмів в Україні та Молдові в умовах нестабільного зовнішнього середовища. Методологічна конструкція дослідження базувалася на інтеграції інституційного, структурно-функціонального, нормативно-правового, порівняльного бюджетного, просторового, компаративного аналізу, методу ретроспективного порівняння часових рядів, кейс-аналізу, інституційного моделювання, аналізу інституційної сумісності та методу моделювання. У ході дослідження було встановлено, що укрупнення без попереднього зміцнення адміністративних процедур не забезпечує вирівнювання регіональних диспропорцій. Аналіз виявив, що адаптивність управління визначається рівнем координації, кадровим потенціалом та інтеграцією цифрових інструментів. Отримані результати засвідчили, що перенесення моделі адміністративного укрупнення не відтворює однакових ефектів у різних країнах через відмінності у структурі місцевого управління та ресурсній базі. В Україні обмеженням виступила не кількість територіальних одиниць, а дисбаланс адміністративної спроможності між громадами, який посилюється нерівномірністю економічного розвитку. У випадку Молдови аналіз зафіксував збереження дрібномасштабної адміністративної структури, яка обмежує ефективність делегування повноважень та ускладнює реалізацію політики згуртованості. Узагальнення результатів показало, що імплементація підходів адміністративної консолідації в Україні та Молдові потребує поєднання інституційного зміцнення, фінансової диверсифікації та розвитку цифрового врядування. Практичне значення полягає у формуванні аналітичної основи для органів державної влади, експертних центрів та розробників політики, залучених до реформування системи територіального управління в Україні та Молдові

Ключові слова: адміністративні одиниці; депопуляція; публічні послуги; укрупнення; фрагментація

Methodology for studying interrelations between economic development strategising and behavioural decision models

Glib Mazhara*

PhD in Economics, Associate Professor, Senior Researcher
State Organization "Institute for Economics and Forecasting
of the National Academy of Sciences of Ukraine"
01011, 26 Panasa Myrnoho Str., Kyiv, Ukraine
<https://orcid.org/0000-0002-1860-756X>

Abstract. The relevance of the topic stems from the fact that, in turbulent, institutionally fragmented and digitally mediated environments, the quality of strategic decisions depends not only on formal goal-setting and resource-allocation procedures, but also on the ways in which actors perceived information, risks, institutional constraints and algorithmic decision-support tools. The purpose of the paper was to construct an integrated methodological design capable of linking the normative logic of strategising with behavioural, institutional, analytical-modelling and adaptive-digital dimensions of decision-making. The study applied systems analysis, structural-component analysis, comparative analysis, institutional analysis, behavioural-cognitive interpretation, critical literature review, conceptual modelling and multilevel analytical interpretation. The article substantiated a methodology for studying the interrelations between economic development strategising and behavioural decision models. As a result, an integrated methodology was proposed in which strategising was interpreted as a cycle connecting goals, data, analytical models, co-ordination procedures, implementation, monitoring and adaptation. The study showed that real strategic decisions cannot be explained through rational choice alone and have to account for bounded rationality, cognitive biases, heterogeneous levels of reasoning, institutional incentives and the effects of algorithmic mediation. It was also demonstrated that the methodology has to be multilevel: at the national level, the emphasis is placed on uncertainty and long-term consequences; at the regional level, on programme co-ordination and resource design; and at the micro level, on behavioural mechanisms shaping implementation. The practical value of the study lies in the applicability of the proposed methodology to the design of economic development strategies, management architectures, monitoring systems and adaptive decision mechanisms in public administration and digital governance

Keywords: policy architecture; bounded rationality; institutional co-ordination; uncertainty governance; algorithmic mediation; procedural legitimacy

● INTRODUCTION

Economic development strategising has remained a central concern of management and public governance because contemporary economies have operated under turbulence, institutional fragmentation, technological acceleration and persistently incomplete information. Under such conditions, strategic decisions have affected not only the allocation of resources and priorities but also the resilience of governance systems, the credibility of public interventions and the capacity to adapt to unexpected shocks. This made

the methodological design of strategising research a substantive issue in its own right rather than a merely technical preliminary step.

Recent research has shown that strategic planning retained value in turbulent settings only when it functioned as an organisational capability rather than as a formal planning ritual. Å. Johnsen (2023) demonstrated that strategic planning remained useful in volatile environments, yet its contribution depended on how planning was linked

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*Corresponding author (SkyDoor13@gmail.com)



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to implementation and learning. L. Vandersmissen & B. George (2024a; 2024b) likewise showed, on the basis of a long-run review of public-sector scholarship, that the field had gradually shifted from a document-centred understanding of planning towards process, alignment and performance mechanisms. K. Axelsson & L. Höglund (2024) further confirmed that strategic management mattered when it structured cross-functional co-ordination and translated strategic intent into operational choices. These studies collectively suggested that the methodological analysis of strategising had to focus on process architecture rather than on planning formalities alone.

A second line of research established that strategic outcomes could not be inferred from formal plans without accounting for behavioural processes. A. Giarlotta & A. Petralia (2024) revisited bounded rationality and reaffirmed its continuing importance for economics and management, showing that limited cognition and satisficing remained central to real-world decision-making. M. Mozafar *et al.* (2023), in a systematic review of behavioural public policy, showed that framing, simplification, defaults, salience and social norms systematically altered how policy choices were perceived and implemented. B.D. Chol *et al.* (2026) reached a related conclusion in behavioural public administration, arguing that cognitive biases, motivational factors and institutional context had to be analysed jointly rather than in isolation. This literature indicated that a methodology of strategising had to connect priorities and instruments with choice, learning, resistance and adaptation.

A third stream of scholarship highlighted uncertainty and digital mediation as conditions that reconfigured strategic decision-making itself. R. Akse (2024) showed that uncertainty was governed through competencies, expectations and rules rather than treated as a purely technical deficit, while A. Batool *et al.* (2025) demonstrated that artificial intelligence governance required explainability, accountability and adaptive oversight. Taken together, these findings revealed a persistent research gap: studies on strategic management, behavioural decision-making, uncertainty management and digital transformation often advanced in parallel, whereas economic development strategies were implemented through one interdependent decision system in which goals, incentives, data, expectations and governance routines continuously interacted.

The aim of this article was to substantiate a methodology for studying the interrelations between economic development strategising and behavioural decision models. The objectives were threefold: to clarify the analytical dimensions of strategising; to compare behavioural, institutional and digital mechanisms that conditioned strategic decision-making; and to construct a multilevel methodological architecture suitable for the analysis of economic development. The scientific novelty of the paper lay in combining strategic, behavioural, institutional and digital lenses into one coherent analytical design.

● MATERIALS AND METHODS

The article was designed as a theoretical and review-based study aimed at reconstructing a methodology for analysing the interrelations between economic development strategising and behavioural decision models. Its empirical base

consisted of contemporary peer-reviewed scholarship on strategic planning, behavioural public policy, public administration, digital government, uncertainty management and algorithmic decision-making. The corpus was delimited primarily to publications from the last three to five years so that the proposed methodology reflected current debates on public governance, digital transformation and behavioural economics while remaining conceptually connected to the broader strategic-management tradition. The unit of analysis was not an individual organisation or dataset, but published analytical arguments, conceptual constructs and explanatory mechanisms relevant to multilevel strategising.

The review and synthesis procedure was organised in five stages. First, the literature was grouped into four analytical clusters: strategic planning and strategic management; bounded rationality and behavioural public policy; uncertainty and adaptive governance; and digital and algorithmic decision-making. Second, the selected works were compared according to their unit of analysis, causal logic, treatment of actors, treatment of uncertainty and practical implications for public and economic governance. Third, recurring dimensions were extracted and classified into strategic, behavioural, institutional, informational-analytical and adaptive-digital dimensions. Fourth, a dedicated stage of methodological mapping was introduced in order to connect these dimensions with plausible analytical instruments. This stage produced the heuristic matrix presented in Table 1. The matrix was therefore treated not as a direct empirical result but as a recommendatory synthesis showing which methodological tools were most consistent with specific classes of strategic and behavioural problems. Fifth, the resulting dimensions and mappings were integrated into the conceptual scheme represented in Figure 1.

Several methods were combined within this design. Systems analysis was used to interpret strategising as a set of interacting decision loops rather than as a linear administrative sequence. Structural-component analysis made it possible to distinguish the principal blocks of the framework and to specify their internal functions. Comparative analysis was applied to identify convergences and divergences among recent studies, especially in their causal assumptions about how planning, incentives, cognition, uncertainty and digital mediation influenced outcomes. Conceptual modelling was used to reconstruct the internal logic linking strategic parameters with behavioural mechanisms and to express this logic in a multilevel form suitable for national, regional and micro-level analysis. Critical literature review was used not merely to summarise previous research but to evaluate whether existing findings confirmed, refined or challenged the core theses advanced in the present article.

A separate analytical dimension concerned explainability and procedural fairness in algorithmic governance. Because the literature showed that digital mediation could alter not only analytical efficiency but also legitimacy, fairness and acceptance, explainability was included explicitly in the methodological design rather than left as an implicit derivative of digitalisation. In practical terms, this meant that the review tracked how studies conceptualised the visibility of algorithmic logic, the accountability of automated recommendations, the role of public engagement and the

institutional conditions under which algorithmic support was accepted or resisted. This step justified the later inclusion of adaptive-digital variables and the discussion of procedural legitimacy in the results section.

The operational logic of the methodology was multilevel and nested rather than based on a single homogeneous dataset. Macro-level strategic variables, meso-level co-ordination variables and micro-level behavioural variables were not assumed to be measured simultaneously through one instrument. Instead, the methodology specified which variables could be examined at which level and through which method, thereby avoiding the false expectation that cognitive biases and strategic parameters had to be captured in one empirical table. This multilevel nesting also explained why some instruments in Table 1 were presented as indicative options rather than obligatory techniques. The purpose of the article was thus analytical integration and methodological clarification, not statistical generalisation or direct causal estimation.

● RESULTS AND DISCUSSION

The comparative stage of the study showed that the reviewed literature converged on one point while differing in its causal emphasis. Strategic-planning studies explained outcomes primarily through alignment, implementation routines and co-ordination structures. Behavioural studies explained them through bounded rationality, framing, attention limits and motivational context. Uncertainty-oriented studies emphasised the instability of assumptions, the revisability of indicators and the need for adaptive safeguards. Digital-governance studies focused on explainability, legitimacy and the redistribution of interpretive authority through algorithmic systems. These clusters therefore did not contradict one another; rather, they illuminated different mechanisms through which strategising succeeded or failed.

This comparison made it possible to reconstruct the internal causal logic of the proposed methodology. Strategic parameters shaped what counted as relevant objectives and feasible trade-offs. Institutional settings influenced how those objectives were translated into authority,

co-ordination and accountability structures. Behavioural mechanisms affected how actors interpreted information, prioritised alternatives and responded to incentives. Informational-analytical routines determined which signals became visible and which remained excluded from managerial attention. Adaptive-digital arrangements conditioned how quickly feedback was incorporated and whether algorithmic support strengthened or weakened legitimacy. In this sense, the methodology linked outcomes not to a single factor but to a chain of mutually conditioning relations.

Methodologically, these dimensions should be translated into observable or at least traceable indicators through a nested research design. Strategic variables may be examined through priority density, horizon length, resource concentration and explicit trade-off rules in policy documents. Behavioural variables may be studied through risk preferences, heuristic reliance, tolerance for ambiguity, trust and perceptions of procedural legitimacy, but they should be examined at the level where such evidence can be credibly observed, for example through surveys, experiments, process tracing or administrative diagnostics. Institutional variables may be traced through distributions of authority, formal accountability rules, co-ordination burdens and procedural rigidity. Informational-analytical variables may be assessed through data timeliness, scenario diversity, model transparency and monitoring frequency. Adaptive-digital variables may be analysed through explainability, the pace of revision, the degree of algorithmic support and the formal status of automated recommendations. This clarified that macro-level strategic parameters and micro-level behavioural mechanisms were not expected to be measured through one instrument; they were connected analytically within one multilevel framework. To make this logic operational, Table 1 presents an illustrative mapping between major strategising parameters, recurrent behavioural mechanisms, their developmental implications and the methodological options most appropriate for their identification. The table should be read as a heuristic and recommendatory device derived from the comparative synthesis, not as an empirical finding based on a single dataset.

Table 1. Correspondence between economic development strategising parameters and behavioural decision-making mechanisms

Strategising parameters	Behavioural mechanisms and biases	Implications for economic development	Illustrative methodological options
Goals and priorities	framing effect, loss aversion, overconfidence	formation of unrealistic or politically driven goals; strategic imbalances	content analysis of strategic documents; expert coding; scenario analysis
Resource provision and budgeting	mental accounting, present bias	reorientation towards short-term results; underfunding of long-term development programmes	medium-term expenditure analysis; programme-budget comparison; expenditure tracking
Institutional mechanisms	trust/distrust, risk aversion, perception of uncertainty	reduced investment activity; expansion of shadow practices; limitations in institutional capacity	institutional indices; macroeconometric modelling; analysis of regulatory quality
Implementation and co-ordination	status quo bias, limited attention	implementation delays; lack of co-ordination; imitation of policy implementation	process tracing; implementation diagnostics; administrative process analytics
Monitoring and adjustment	confirmation bias, escalation of commitment	persistence of ineffective policies; delayed or absent policy adjustment	monitoring and evaluation (M&E) systems; ex post policy evaluation; analysis of alternative hypotheses

Source: compiled by the author

The correspondence presented in Table 1 shows that strategic errors should be interpreted as systematic interactions between classes of strategising parameters and recurrent behavioural mechanisms. It also clarifies that the proposed methodological toolkit is selective rather than universal: its function is to guide the choice of methods according to the level and nature of the problem under study, not to prescribe one uniform design for all cases of economic development strategising.

On the basis of the literature synthesis, the proposed framework contains six structural components. The goal-setting component defines the hierarchy of strategic objectives, the relationship between long-term orientation and medium-term programmes, and the criteria of trade-off resolution. The analytical component converts raw information into interpretable evidence through indicators, diagnostics, scenarios, and models. The behavioural component captures how decision-makers and target groups interpret signals, assess risk, and choose among alternatives under cognitive and emotional constraints. The institutional component formalises roles, authority, accountability, and procedures of co-ordination. The implementation component translates selected decisions into operational programmes, routines, and organisational action. The feedback and adaptation component evaluates outcomes, detects deviations, and supports correction.

This six-component architecture clarifies why strategic failure is often misdiagnosed. In many settings, failure is attributed either to incorrect policy ideas or to poor implementation. The framework developed here shows that failure may emerge at any interface: between goals and data, between data and interpretation, between interpretation and institutional selection, or between implementation and learning. A methodologically adequate study must

therefore examine not only decisions themselves but also the channels through which they are produced, legitimised, translated, and revised.

A key contribution of the framework was the placement of behavioural mechanisms inside, rather than outside, the strategic process. Behavioural effects did not arise only at the stage of citizen response or organisational resistance; they also affected agenda-setting, metric selection, prioritisation, scenario evaluation and monitoring. Overconfidence could distort target-setting, present bias could weaken long-term commitments, status quo bias could delay adjustment, and confirmation bias could reduce corrective learning. This explained why formally consistent strategies often remained practically weak.

A useful way to interpret these components is through classes of strategic error and their causal transmission. Goal-setting errors emerged when priorities became over-extended or detached from feasible implementation horizons. Analytical errors emerged when indicators were poorly selected or when a single model was treated as if it exhausted uncertainty. Behavioural errors emerged when decision-makers underestimated inertia, overestimated compliance or assumed a shared cognitive map across actors. Institutional errors emerged when responsibility was fragmented or co-ordination costs ignored. Implementation errors appeared when operational routines did not translate strategic intent into action, whereas feedback errors appeared when monitoring captured outputs but missed adaptive capacity. This causal differentiation made the framework diagnostic rather than merely descriptive. Figure 1 integrates the proposed methodological logic into one analytical scheme and shows how strategising parameters, behavioural decision models and multilevel implementation were linked through a unified decision architecture.

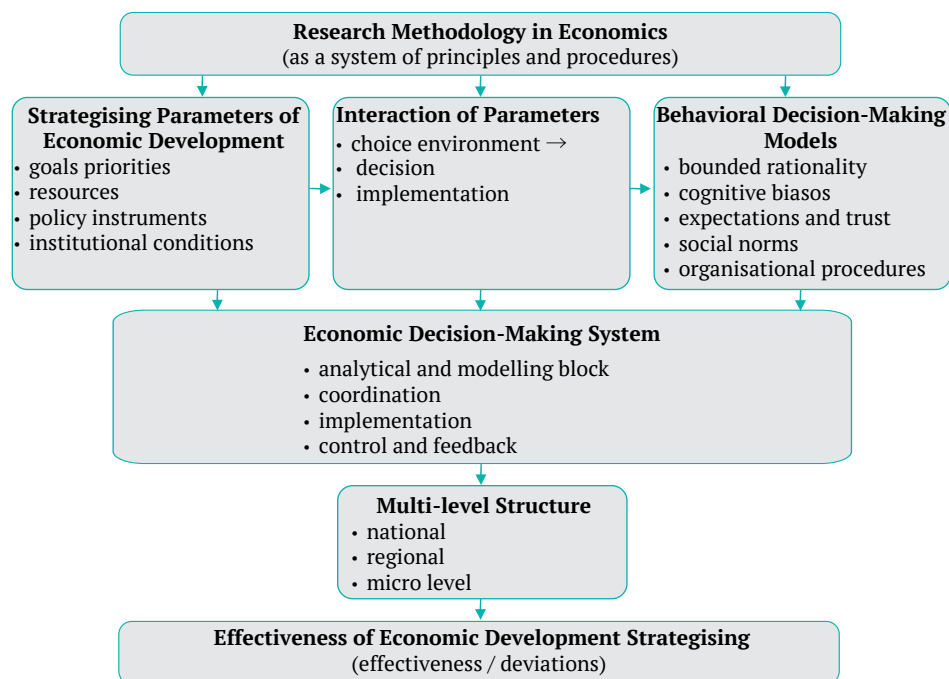


Figure 1. Logical-structural framework of the research methodology for the relationship between economic development strategising parameters and behavioural decision-making models

Source: compiled by the author

As summarised in Figure 1, the methodology should be interpreted as a connected process rather than a linear sequence of isolated procedures. In this scheme, the effectiveness of economic development strategising refers to a combined outcome: developmental effects in the form of more coherent priorities, better implementation and stronger adaptive capacity, together with procedural quality expressed through accountability, explainability and the legitimacy of decision-making routines.

The framework was explicitly multilevel. At the national level, strategising dealt with high uncertainty, long implementation horizons and structurally incomplete information. Here the methodological emphasis was placed on scenario construction, model pluralism, robustness analysis and institutionalised revision of assumptions. Long-lag effects meant that even analytically justified choices required adaptive safeguards. At this level, the greatest risks arose from oversimplified models of the environment, weak anticipation of agent responses and insufficient attention to systemic feedback.

At the regional level, the central challenge was translation. National priorities had to be transformed into programme portfolios, investment packages and governance arrangements compatible with local capabilities and constraints. Therefore, the methodology had to emphasise co-ordination, prioritisation, inter-organisational alignment and resource design. Regional strategising was especially vulnerable to composition errors: goals might be formally aligned with national policy but poorly synchronised with implementation capacity, institutional incentives or stakeholder expectations.

At the micro level, the problem shifted towards operational behaviour. Firms, service units, local authorities and frontline public organisations responded to strategies through routines, heuristics, learning patterns and selective compliance. The methodological focus therefore had to move to implementation behaviour, practical incentives, organisational attention and the dynamics of feedback. In this sense, micro-level analysis was not a reduced or secondary layer of strategising; it was the level at which strategic logic was confirmed, adapted or silently neutralised by real decision behaviour.

The multilevel perspective also helped distinguish the dominant time structure of decision-making. National strategies usually operated with long-range causal assumptions and delayed outcomes, so the methodology had to remain robust to model uncertainty and structural breaks. Regional strategies combined medium-term programming with negotiation among multiple implementers, which made co-ordination, sequencing and portfolio balance analytically central. Micro-level strategies, by contrast, were shaped by short feedback loops, frontline discretion and local routines, so observation of actual behaviour became especially important. This difference in temporal architecture explained why the same formal strategic priority might produce different outcomes across levels even when it was nominally preserved.

The framework also clarified how digital transformation modified strategising. Artificial intelligence and digital government tools expanded the analytical capacity of organisations by accelerating diagnosis, pattern detection and scenario generation. However, they simultaneously

altered the behavioural and institutional conditions under which decisions were accepted. Digital systems influenced who saw what information, how options were ranked, how quickly correction occurred and whether procedural fairness was perceived as legitimate. Therefore, the methodological study of strategising could not treat digital tools as neutral technical add-ons.

A particularly important implication concerned explainability and acceptance. Where algorithmic decision support was rule-driven and contextually familiar, decision-makers and citizens tended to perceive it as fairer and more legitimate. Where data-driven systems were opaque, the same efficiency gains could produce distrust, resistance or selective avoidance. In strategic terms, this meant that digital augmentation improved decision quality only when technical sophistication was matched by institutional accountability and behavioural acceptability. The practical lesson for economic development strategising was that digital infrastructure, analytical models and governance routines had to be designed together rather than sequentially.

The same conclusion applied to the use of intelligent systems in strategic foresight and policy co-ordination. Digitalisation enabled higher-frequency data collection, simulation and pattern recognition, but it also raised the risk of false precision. A methodologically sound strategy framework therefore had to combine model-based analysis with explicit reflection on uncertainty, data bias, interpretive limits and the social conditions of implementation. In other words, algorithmic capacity could strengthen strategising only if it was embedded in a reflexive governance architecture.

For economic development policy, this insight had immediate consequences. If digital dashboards, automated scoring systems or predictive tools were introduced without clarifying their institutional status, they could silently shift decision rights from accountable actors to opaque procedural defaults. Conversely, when digital tools were explicitly embedded in review procedures, combined with transparent criteria and supplemented by human judgement, they could improve the speed and coherence of strategic correction. Methodologically, researchers therefore had to examine not only whether digital tools were present but also how they redistributed attention, responsibility and interpretive authority inside the strategising process.

For researchers, the proposed framework offered a way to operationalise the relationship between strategising and decision-making without reducing one to the other. It enabled the design of empirical studies that tested specific interfaces, such as the link between risk perception and prioritisation, or between monitoring routines and adaptive correction. It also created a basis for combining qualitative inquiry, econometric modelling, process tracing, simulation and comparative institutional analysis within one coherent research design.

For practitioners, the framework highlighted several design principles. First, strategic documents had to be evaluated not only by the clarity of objectives but also by the realism of the behavioural assumptions built into them. Second, monitoring systems had to track deviations in implementation behaviour, not just deviations in target

indicators. Third, adaptive revision procedures had to be formalised in advance rather than activated only after visible failure. Fourth, digital tools had to be selected according to both analytical usefulness and procedural legitimacy. When these conditions were met, strategising became less a formal planning exercise and more a structured capability for co-ordinated, evidence-informed and behaviourally realistic development management.

The framework was also compatible with mixed-method research designs. Comparative case studies could identify how similar strategic documents performed differently under distinct institutional and behavioural conditions. Survey and experimental methods could test how managers, experts and citizens responded to alternative framing of priorities, risks and algorithmic support tools. Econometric and panel-data approaches could estimate whether strategic capacity, digitalisation or accountability structures affected implementation outcomes over time. Process tracing could reconstruct how specific strategic choices were formed and revised. Simulation models could then test how heterogeneous agents reacted under alternative governance settings. This complementarity was particularly valuable for doctoral-level and policy-oriented research, where explanation, measurement and design often needed to be combined.

A final implication concerned the normative interpretation of strategising. In economic development debates, strategic coherence was often treated as a sign of policy quality. The present analysis suggested a more demanding criterion: a strategy was methodologically strong only when its internal logic was behaviourally realistic, institutionally executable, analytically revisable and digitally accountable. This criterion did not reject formal planning; it redefined planning as one element of a broader decision system. In that sense, the proposed framework supported a move from document-centred assessment towards architecture-centred assessment of economic development strategies.

The proposed methodology should also be compared with studies that examine decision-making in more concrete empirical settings. This comparison is useful because the same methodological problem appears in different forms depending on the context of action. A.A. Ahiadu *et al.* (2024) showed that investment decisions under economic uncertainty were shaped by risk perception, market expectations and financial conditions. C.M. Cumpăt *et al.* (2024), in the case of public hospitals, demonstrated that managerial choice depended on resource constraints, information availability and administrative routines. G. Sun *et al.* (2023) linked stakeholder behaviour in public-private partnerships to benefit distribution, strategic expectations and incentive configurations. These studies do not analyse economic development strategising as such, but they confirm that strategic decisions cannot be reduced to formal choice. They are formed at the intersection of uncertainty, organisational constraints and expectations regarding the behaviour of other actors.

This comparison specifies the multilevel logic of the article. At the national level, uncertainty is linked mainly to the instability of assumptions, long-term consequences and the need to revise indicators when the environment changes, which is close to the argument of A. Medne *et*

al. (2022) on sustainable strategy development under uncertainty. In sectoral and organisational settings, the same problem appears through resource limitations, administrative routines and stakeholder bargaining. At the micro level, it becomes visible through risk perception, selective compliance and heterogeneous reactions to incentives. Therefore, the proposed methodology does not replace sector-specific explanations. It arranges comparable decision mechanisms within one analytical sequence: goal-setting, institutional co-ordination, implementation, monitoring and adaptive correction.

The digital dimension follows the same methodological logic. G. Caiza *et al.* (2024) showed that artificial intelligence in governmental decision-making could increase analytical capacity while also creating risks of bias, opacity and accountability gaps. E. Papagiannidis *et al.* (2023) linked AI governance to organisational practices and governance arrangements, while Y. Gong & X. Yang (2024) examined digital government transformation as dependent on configurations of actors, institutional conditions and transformation stages. E. Vigoda-Gadot & Mizrahi (2024) interpreted digital governance through the interaction of humans, machines and organisations. These arguments are consistent with the position of this article; however, the present article applies this argument specifically to strategising: algorithmic tools are considered as elements of strategising because they change not only how information is processed, but also how responsibility, legitimacy and feedback are organised within the strategic decision cycle.

This is why the methodological framework includes not only analytical capacity, but also procedural legitimacy. G. Wang *et al.* (2023) found that rule-driven and data-driven algorithmic systems are perceived differently in terms of fairness and acceptability. M.C. Decker *et al.* (2025) emphasised that procedural fairness depends on public engagement and the social conditions under which algorithmic decisions are assessed. S. Sharma *et al.* (2024) similarly demonstrated that digital participation becomes meaningful only when accountability and the quality of participation are ensured. For economic development strategising, this means that monitoring and correction cannot be treated as technical operations only. They also depend on explainability, acceptance and the perceived legitimacy of decision procedures.

The role of feedback is also clarified by studies on agility, crisis decision-making and collective cognition. H. Looks *et al.* (2024) associated public-sector agility with iterative learning and feedback capacity. I. D'Alessio *et al.* (2024) demonstrated that emergency contexts make adaptive and multi-actor governance especially visible. Z. Kowalczyk & M. Czubenko (2023) argued that intelligent decision-making systems required explicit cognitive foundations, whereas A.N. Tump *et al.* (2024) proposed a cognitive-computational view of social and collective decision-making. These studies differ in their empirical domains, but they point to a common conclusion relevant to this article: decision quality depends on the interaction of cognition, institutional rules, information flows and feedback mechanisms. The contribution of the proposed methodology is therefore to connect these elements within a methodological architecture for analysing economic development strategising.

● CONCLUSIONS

This article substantiated a methodology for studying the interrelations between economic development strategising and behavioural decision models. The study showed that the explanatory power of strategising research increased when the normative logic of goals, priorities and resource allocation was analysed together with bounded rationality, cognitive heterogeneity, institutional constraints, uncertainty management and algorithmic mediation. In methodological terms, the paper demonstrated that strategic decisions had to be interpreted not as isolated acts of formal choice but as cyclical and multilevel processes in which information, incentives, routines and behavioural responses interacted over time.

The article also showed that a viable methodology required explicit differentiation between levels of analysis and classes of variables. National-level strategising demanded attention to uncertainty, long time horizons and the revisability of assumptions; regional strategising demanded attention to programme co-ordination, portfolio balance and resource design; and micro-level strategising demanded attention to implementation behaviour, incentives, attention limits and practical feedback loops. By specifying a nested rather than a single-instrument design, the study clarified how macro-level strategic parameters and micro-level behavioural mechanisms could be analysed within one framework without collapsing them into a misleadingly uniform dataset.

A further contribution of the paper lay in demonstrating that digital transformation and algorithmic support had to be integrated into the methodology as substantive analytical dimensions. The study showed that digital tools influenced not only the speed of diagnosis and scenario generation but also the explainability, legitimacy and procedural fairness of decision-making. For that reason, the effectiveness of strategising was defined in the article as a combined outcome that included developmental results, implementation coherence, adaptive capacity and procedural quality. The practical value of the proposed methodology therefore lay in its applicability to the design of economic development strategies, management architectures, monitoring systems and adaptive decision mechanisms in public administration and digital governance. Future research should test the framework in comparative, sectoral and regional settings, as well as develop operational indicators and mixed-method designs for measuring the interaction between strategic parameters and behavioural mechanisms.

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Методологія дослідження взаємозв'язку стратегування економічного розвитку та поведінкових моделей рішень

Гліб Мажара

Доктор філософії у галузі економіки, доцент, старший науковий співробітник

Державна установа «Інститут економіки та прогнозування Національної академії наук України»

01011, вул. Панаса Мирного, 26, м. Київ, Україна

<https://orcid.org/0000-0002-1860-756X>

Анотація. Актуальність теми зумовлена тим, що в умовах турбулентного, інституційно фрагментованого та цифровізованого середовища якості стратегічних рішень визначається не лише формальними процедурами цілепокладання і розподілу ресурсів, а й тим, як суб'єкти сприймають інформацію, ризики, інституційні обмеження та алгоритмічні інструменти підтримки вибору. Метою роботи було сформувати цілісну методологічну конструкцію, здатну поєднати нормативний контур стратегування з поведінковим, інституційним, аналітико-модельним та цифрово-адаптивним контуром прийняття рішень. У дослідженні було використано системний, структурно-компонентний, порівняльний, інституційний та поведінково-когнітивний підходи, а також методи критичного огляду літератури, концептуального моделювання, проблемно-логічного структурування і багаторівневої аналітичної інтерпретації. У статті було обґрунтовано методологію дослідження взаємозв'язку між стратегуванням економічного розвитку та поведінковими моделями прийняття рішень. У результаті було запропоновано інтегровану методологію, в якій стратегування інтерпретувалося як цикл взаємодії цілей, даних, аналітичних моделей, процедур узгодження, реалізації, моніторингу та адаптації. Було показано, що пояснення реальних стратегічних рішень вимагає врахування обмеженої раціональності, когнітивних викривлень, неоднорідності рівнів мислення, інституційних стимулів та ефектів алгоритмічної mediaції. Також було доведено, що методологія має будуватися як багаторівнева: на національному рівні акцент було зроблено на роботі з невизначеністю та довгими горизонтами наслідків, на регіональному – на координації програм і ресурсному дизайні, на мікрорівні – на поведінкових механізмах реалізації. Практична цінність роботи полягає у можливості використання запропонованої методології для побудови стратегій економічного розвитку, архітектури управлінських процедур, систем моніторингу та адаптивних механізмів прийняття рішень у публічному управлінні й цифровому середовищі

Ключові слова: архітектура політики; обмежена раціональність; інституційна координація; управління невизначеністю; алгоритмічна mediaція; процедурна легітимність

Constraints and solutions for the digital transformation of urban ethnic affairs: A stakeholder perspective

Yuli Chen*

Researcher

Hainan Provincial Institute of Ethnic Studies

570000, 9 Guoxing Ave., Haikou, People's Republic of China

<https://orcid.org/0009-0008-2138-3270>

Abstract. The relevance of the study is a result of the growing imperative of the digital transformation of public governance and the challenges posed by such transformation to ethnically diverse urban populations. The purpose of this study was to develop a stakeholder-centred framework for identifying institutional constraints on the digital transformation of ethnic affairs governance in urban China and Canada. The study employed comparative document analysis, stakeholder mapping, and multi-level governance analysis of legal and policy frameworks in China and Canada. The results demonstrate that China and Canada have developed fundamentally different models of ethnic affairs governance, whose limitations are structural rather than individually resolvable. China's centralised model ensures high operational efficiency and a unified digital infrastructure, yet generates deficits of legitimacy across input, throughput, and output dimensions. These deficits stem from the exclusion of ethnic community organisations from platform co-design, weak interoperability between the National State Commission for Ethnic Affairs and national data systems, and the managerial role of major technology corporations without independent oversight. The adoption of the National Unity and Progress Act has further reinforced the concentration of governance within party-based structures, reducing the availability of culturally sensitive digital services at the municipal level. Canada's decentralised model, by contrast, demonstrates strong input legitimacy grounded in constitutionally recognised multicultural and Indigenous rights. However, it exhibits persistent coordination failures and outcome legitimacy deficits due to fragmentation across federal, provincial, municipal, and Indigenous governance levels. Evidence from Toronto and Vancouver highlights both variation in participatory mechanisms and enduring accountability gaps between Indigenous self-government institutions and municipal digital service provision. The findings of this research can be applied to other countries with similar governmental models for ethnic affairs and contribute to the existing scholarly literature on the topic of digital transformation and ethnic affairs governance

Keywords: subsidiarity; interoperability; participatory legitimacy; governance models; Indigenous groups; multicultural

● INTRODUCTION

In the transforming digital age and in the consideration of the growing ethnic diversity within urban populations, the digital management of ethnic affairs has become one of the most pressing challenges for both municipal and national governments. The transition from analogue to digital governments and the relationships between those governments and the populations they govern have raised questions regarding the digital governance of various topics and services. One of the groups of individuals whose

governance presents challenges for digital governments has been those of ethnic backgrounds and populations, as the digital governments have yet to formulate approaches to the digital governance of ethnic affairs.

As indicated by the research on stakeholder engagement in governance processes, the effectiveness of many initiatives for institutional reform relies upon the degree of engagement of the communities that are to benefit from those initiatives. O. Pasko *et al.* (2021) established through

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*Corresponding author (YuliChen9@outlook.com)



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their research that engaging the stakeholders that are to utilise the sustainability reports that are published by an institution can lead to improvements in the institution and its outputs. Additionally, T.O. Zinchuk *et al.* (2021) indicated that the inclusion of both entrepreneurial and governmental stakeholders in the management of rural economies can lead to outcomes that are both more sustainable and coherent than those that are established through governing bodies alone. O. Pelyukh *et al.* (2021) provided a means of analysing the stakeholders of an organisation, such as in the management of sustainable forests, and found that providing such an analysis as a foundation for the establishment of governing bodies for that organisation can lead to better outcomes than if that organisation attempted to manage the stakeholders themselves. This same methodology is utilised in the efforts of this research to provide an analysis of the ethnic affairs governing bodies of urban areas.

The institutional dimensions of the challenge of ethnic affairs digital governance have also been elaborated in research on the governance frameworks for post-transition societies. For instance, A.J. Nair *et al.* (2024) proposed an institutional analysis and reconfiguration framework for sustainability governance, focusing on the importance of aligning an institution with the expectations of the people that utilise it – an issue that is analogous to the problem of legitimacy in the context of the centralised governance of ethnic affairs. In the specifically digital dimension of governance, R. Creemers (2022) conducted a thorough analysis of China's data protection framework. Author indicated that the digital governance infrastructure that has been developed within China is based upon a high degree of centralisation in its regulatory authority, which impacts the ability of the country to share the data of its ethnic and minority communities.

The interaction between digital technology and governance has also been examined in other comparative cross-national analyses. T. Qin *et al.* (2022) performed an analysis of the digital transformation of agricultural governance within China and the European Union, discovering differences in the approaches that each nation has taken that are similar to the comparison of centralised government models to decentralised government models examined in this study. R. Heeks *et al.* (2024) conducted a review of the expansion of digital technology within China's Global South nations, discovering that the digital governance models that China has implemented into these nations are based upon high levels of technical capability yet with limited means of allowing the communities to participate in those digital governance models, a finding related to the analysis of China's urban ethnic affairs governance model. Additionally, H.P. Ebrahimi *et al.* (2021) performed a study of the development of a framework for the inclusion of digital agriculture stakeholders within Canada's agricultural sector, finding that the effectiveness of digital technologies within agricultural sectors is correlated with the inclusion of stakeholder participation within the creation and implementation of those digital technologies – a finding that can help to understand the shortcomings of Canada's decentralised ethnic affairs digital governance model. Finally, J. Xiao *et al.* (2022) performed a study of the perspectives of various digital governance stakeholders within Canada regarding the implementation of a national governance

framework, finding that the effectiveness of national governance frameworks is correlated with the accommodation of the diversities within individual Canadian actors responsible for the implementation of those frameworks – a finding that relates to the ethnic affairs digital governance model established within Canada's decentralised government architecture.

Despite a substantial body of empirical and theoretical research on digital governance, stakeholder engagement and ethnic minority policy, the existing literature has generally examined these domains in isolation rather than as an integrated governance challenge. Studies of digital government transformation have focused primarily on technological infrastructure and service delivery efficiency without adequately addressing the participatory and legitimacy dimensions of governance in ethnically diverse contexts. In contrast, research on ethnic minority policy has focused on the recognition of normative frameworks and rights without systematically examining the institutional and technical conditions necessary for the digital operation of those frameworks. The purpose of this study was the comparative analysis of the digital ethnic affairs governance models of China and Canada in order to identify the dominant institutional constraints.

● MATERIALS AND METHODS

This study employed a mixed-methods approach wherein one method was qualitative and the other quantitative. The qualitative method involved the analysis of official documents, while the statistical data provided an overview of the digital governance initiatives implemented in China and Canada. These statistics were used in a descriptive manner to discuss the digital governance initiatives of these countries. The legal documents were analysed to determine the distribution of power between the levels of government, as well as the degree of accountability that exists within each level of government regarding ethnic affairs and digital services. To compare the digital governance models of ethnic affairs of China and Canada, a comparative analysis framework was developed. The selection of China and Canada as countries to include in the research study was based on three criteria: the representativeness of their models of governance of ethnic affairs (centralised versus decentralised); the existence of a framework for the governance of ethnic affairs in both countries; and the presence of digital transformation initiatives at the national and municipal levels in both countries. A framework was established that includes four different analytical dimensions: institutional and legal dimension, stakeholder power dimension, technical infrastructure dimension, and participatory governance dimension.

The study applies an analysis of the governance of ethnic affairs in the digital space. Such an analysis involves examining the decision-making and coordination mechanisms of the organisations involved in the digital governance of ethnic affairs. The ethnic affairs digital governance involves the interaction of the government at various levels, technology companies, and ethnic representatives. Furthermore, particular attention is paid to identifying the different coordination mechanisms involved in the digital governance of ethnic affairs. Finally, an analysis of the governance allows for the identification of any imbalances

in the digital governance models and their effects on the digital governance of ethnic affairs. The study proceeded in two stages. The first stage comprised the collection of empirical sources regarding the digital ethnic affairs governance models in Canada and China. Two categories of documents were collected for each country. The first category consisted of legal documents. For China, the legal documents included the Law of the People's Republic of China "On Regional National Autonomy" (2016), the Law of the People's Republic of China "On Promoting National Unity and Progress" (2026), and the The State Council's guiding opinions on accelerating the development of "Internet Plus Government Services" (2016). For Canada, the legal documents included the Canadian Multiculturalism Act (1988); Section 27 – Multicultural heritage (Government of Canada, 2025); and the Indigenous Languages Act (2019).

The second category comprised programmatic and strategic documents published by the governments. For China, the 14th Five-Year Plan for the Development of the Digital Economy (National Development and Reform Commission, 2022) and the National human rights action plan (2021-2025) (State Council Information Office..., 2021) were collected. For Canada, the Annual Report on the Operation (Government of Canada, 2024) and the CAN/DGSI 103-0 (Digital Governance Council, 2025). A third category of municipal-level governance documents was additionally compiled to capture the operational dimension of ethnic affairs digital governance below the national level, including Toronto's Data for Equity Strategy (City of Toronto, n.d.) and Vancouver's UNDRIP Municipal Action Plan (Vancouver City Council Decision, 2024).

The second stage consisted of two phases that were interconnected. The first of these phases consisted of the analysis of the documents and frameworks that were compiled during the first phase in order to determine the configurations of the stakeholders that exist within each of the countries, as well as the limitations that those stakeholders face within each of those countries. Each of the documents that had been compiled during stage one was analysed to determine the main governance mechanisms that existed within each of the countries, to code those as they related to the four analytical dimensions, to map the relationships of accountability between the various actors within the governance of each of the countries, and to determine any failures within the governance of each of those countries. Each of these governance weaknesses in each country was then named, categorised, and presented in a matrix, where each weakness is categorised not only as one that exists in each country but also as one that should be addressed within the governance reforms proposed for those countries.

The second phase was dedicated to formulating a new integrated governance model for ethnic affairs institutions based on three principles: subsidiarity, interoperability, and participatory legitimacy, whose aim was to simultaneously resolve the institutional deficiencies identified in both national models. The model was developed through a structured analytical procedure applied to the findings of the first phase and was subsequently operationalised across the institutional, technical, and participatory dimensions of ethnic affairs governance to produce concrete reform proposals calibrated to the specific governance context of each country. The application of the analyses of

each of these models allowed the determination of each of the different aspects of the digital ethnic affairs governance models in both Canada and China.

● RESULTS

Stakeholder configuration and institutional power in digital ethnic governance

The concept of legitimacy requires operationalisation before it can become an effective analytical instrument. According to V.A. Schmidt (2013), legitimacy can be broken down into three different components. The first is known as input legitimacy, which the National Immigration Administration defines as a political criterion that relates to the ability of citizens to participate in the government and for the government to respond to the preferences of the citizens. The second is known as output legitimacy, which evaluates the effectiveness of the policies that are created by the government. The third is throughput legitimacy, which measures the quality of the governance processes, particularly in regard to the accountability of the policy-makers that make up the government and the transparency, inclusiveness and openness of those processes. Each of these components is essential to the functioning of a government; the quality of throughput legitimacy is not a substitute for either the input or output legitimacy of a government, regardless of how good its processes may be. Each of these components can therefore help to determine which specific component of legitimacy is failing within each of the national models of digital governance of ethnic affairs.

The stakeholders involved in the digital governance of ethnic affairs in China are different from those involved in Canada in relation to the structure of the countries. The governance of ethnic affairs in China is organised within a hierarchical institutional structure whose legal foundations determine the distribution of decision-making power within that governance structure. Law of the People's Republic of China "On Regional National Autonomy" (2016) established that the regional governments would be responsible for the development of infrastructure and the delivery of public services within the respective autonomy regions, while the central government within the State Ethnic Affairs Commission (SEAC) would retain oversight of the autonomous regions. In this way, the ethnic affairs offices for individual municipalities were established as institutions that were to be answerable to the provincial and central government authorities, rather than to the ethnic communities that were within those regions. Furthermore, in 2018, the SEAC was placed under the purview of the United Front Work Department of the Communist Party of China through the Plan for Deepening the Reform of Party and State Institutions, which transferred the management of ethnic affairs from an agency dedicated to the provision of government services to an agency within the Communist Party that was responsible for the integration of the nation's diverse groups. Finally, the Law of the People's Republic of China "On Promoting National Unity and Progress" (2026) required that a variety of Chinese enterprises, public-service institutions, and technology companies work to promote ethnic unity within the nation and in its regions, though it did not establish any authorities within the companies to regulate their data and technology-related practices. In the digital space, the 14th Five-Year

Plan for the Development of the Digital Economy (National Development and Reform Commission, 2022) and the National human rights action plan (2021-2025) (State Council Information Office..., 2021) indicated the means through which the government intended to implement these legal structures. The 14th Five-Year Plan mandated the construction of a digital government that would allow for the provision of all public services through a digital platform, while the Human Rights Action Plan committed the government to the development of digital platforms and services that were dedicated to the cultural and educational services that were provided to ethnic minorities within China, such as the establishment of a smart library system and a public culture cloud platform within the nation. These plans indicate that decisions regarding the digital services that are to be provided to ethnic populations within China are to be made by the central government, with the municipalities' offices for ethnic affairs being tasked only with their implementation.

The governance role of technology companies within China's digital ethnic affairs system is another dimension of the governance system that is not described within the institutional framework of the government. The technology companies that provide digital government services within China – Alibaba, Tencent, and Huawei – do not readily fit within either the private or public sector. Each of these platforming companies has become an essential part of the nation's infrastructure, blurring the lines between the public and private sectors. As a result of the extensive power that these companies have within China, the government has begun to increase its regulation of these platforming sectors to address their monopolistic status within the country (Mao & Zhu, 2025). Thus, decisions regarding the structure of digital government platforms and the eligibility of ethnic groups to access these platforms is made within a space that is not publicly accountable to the ethnic groups that are governed by the digital platform and without any means of oversight of those decisions by the ethnic groups.

The governance role of the technology companies within the ethnic affairs digital governance framework in China was established through a specific set of institutional arrangements that dictated both the conditions of their participation in the framework and any mechanisms or the absence of any mechanisms through which they could be held accountable for their participation. The provincial and municipal governments in China tasked Alibaba and Tencent with the co-development of their digital government service platforms as a means of procuring their digital government services under the directives of the "Internet + government services" directive of the Chinese government, which required all of China's 31 provinces to establish their own m-government platforms (The State Council of the People's Republic of China, 2022).

The contractual terms of these engagements assigned both the state and the technology company to making decisions regarding the architecture of the platform and the data standards to be followed on the platform. While the municipalities had responsibility for the implementation of the platform, they did not have any authority over the architecture and data decisions made by the technology companies. The WeChat City Service and Alipay

platform, which provided ethnic and municipal residents with government services like social insurance, taxes, housing, transportation, and education were overseen by a partnership between the government and the technology company, of which the ethnic minority communities had no part. The accountability for this governing partnership was one-way; the technology companies were accountable to the central and provincial governments, but there was no independent governmental body responsible for overseeing the technology companies' practices related to their ethnic minority data (The State Council of the People's Republic of China, 2022).

The co-development of the health code by Alibaba and Tencent in Hangzhou and Shenzhen demonstrates the terms of the accountability relationship between the state and private sector companies during the COVID-19 pandemic. The companies were able to produce the health code in only a few weeks, indicating the effectiveness of their partnership, but the lack of any oversight by the community indicates that the health code was developed directly between the government and the companies, without considering the preferences of the communities. Similarly, the same companies that do not have oversight from the ethnic communities are also developing technology with ethnic identification capabilities. For instance, both Alibaba has developed offerings for the Uyghur community as a service, and Huawei developed a patent for their technology to perform facial recognition according to their race in 2018. Thus, the government and the private companies have essentially created a technology that is meant to provide services to the communities *yet also* allows for the surveillance of those same ethnic minorities. The governance of these companies has changed between 2015 and 2026. For instance, in 2016 the government directed the private companies to develop "Internet + government services" programmes, which would be implemented throughout the province and municipal governments (New government service..., 2021).

The implications of this type of technological arrangement for the ethnic minority groups within China are particularly significant, as there are already documented instances of the capabilities of these technology companies being utilised for the purpose of identifying the ethnicity of individuals, rather than providing services to those of ethnic minority groups. For instance, a patent application jointly filed by Huawei and the Chinese Academy of Sciences in July of 2018 proposed the use of facial recognition technology to automatically identify the race of an individual. Thus, the technology that is utilised to provide digital services to the ethnic minority groups within China is also a technology that can recognise and monitor those same groups. Therefore, the Chinese government's current framework for digital ethnic affairs management does not appear to consider the implications of this inherent problem within the current system regarding the throughput of ethnic minority groups through such digital services; there are no provisions within the processes of the technology companies for the digital ethnic affairs management groups to limit the capabilities of their digital platforms to those relating to the delivery of services to the ethnic minority groups. The municipal level of ethnic affairs digital governance within China featured four different

configurations that developed out of the interaction between the ethnic compositions of the cities and the digital governance regulations that were mandated for each city by the central government of China. A comparison of the digital governance of two of China's largest cities, Shanghai and Chengdu, reveals the reasons why a single national platform for digital governance of ethnic affairs may not be able to meet the demands of the country's ethnically diverse urban centres.

In terms of decision-making autonomy, both cities have certain provisions that limit the autonomy of local authorities to make decisions regarding ethnic affairs. In Shanghai, the ethnic affairs are administered by the Shanghai Municipal Bureau of Ethnic and Religious Affairs, which is jointly supervised by both the municipal government and the United Front Work Department, restricting the municipality's ability to adapt services according to the needs of its ethnic minorities (Shanghai Municipal People's Government Cooperation and Exchange Office, 2025). In Chengdu, while the city has granted discretion to the managers within each management grid to report on and manage administrative and security-related matters within their grids, no such discretion is provided for ethnic affairs services to be adapted to the needs of the city's ethnic minorities (Qingdao Agricultural University, 2022).

The failures of each of the cities to coordinate their efforts were similarly distinct in character. For Shanghai, the failure was horizontal in that the General Office of the Shanghai Municipal People's Government was responsible for public data and the planning of electronic government affairs independently of the Bureau of Ethnic and Religious Affairs. For Chengdu, the failure was vertical in that the grid management system collected data from communities to the county information centres and then to the municipal government but did not distribute coordinating powers from the municipal government to the city's ethnic minority groups. The integration of digital systems into ethnic affairs governance also diverged significantly between the two cities. Shanghai had developed a Bureau of Ethnic and Religious Affairs that was specifically in charge of managing online religious and ethnic affairs within the city; however, the bureau was not connected to the Digital Government Office. In contrast, Chengdu had developed an Information and Communication Technology (ICT)-based government platform that could collect data from various levels of government within the city; however, the platform did not include any component regarding ethnic affairs governance (Chengdu Metropolitan Area..., n.d.).

The most consequential divergence between the two cities, however, concerned stakeholder participation. Neither city had institutionalised mechanisms through which ethnic minority communities could exercise meaningful influence over digital platform design or service delivery standards, but the absence took different forms. In Shanghai, the institutional architecture for ethnic affairs governance existed without a community input channel: the Bureau managed ethnic affairs through administrative directives rather than co-design processes, and the technology companies co-developing the city's digital platforms, primarily through the WeChat City Service infrastructure, operated without ethnic community oversight (Ethnic and Religious Affairs Office of Pudong New Area, 2025). In

Chengdu, the absence was more fundamental: the digital governance system that had the greatest operational reach into community life, the grid management platform, had not been designed with ethnic affairs governance in mind at all, meaning that the question of community participation in ethnic digital governance had not yet been institutionally posed, *let alone* answered (Qingdao Agricultural University, 2022).

China's model of governance of its ethnic affairs has enabled the development of digital infrastructure on a vast scale. The national social governance platform infrastructure allows for the collection of data from various areas of administration, providing a foundation for digital services that are currently in demand yet that the decentralised systems of many other nations struggle to develop. The model has been successfully implemented at the municipal level in cities like Shanghai. Nevertheless, the centralised model of governing ethnic affairs within China does have some constraints. The main issue with the centralisation of such affairs is that the digital service platforms that are implemented are built according to a standard that does not necessarily account for the specific needs of the ethnic communities that exist within the nation. A second constraint of the centralised model of managing ethnic affairs is the fact that the municipalities that manage such affairs are accountable to higher levels of government rather than to the communities that they oversee. Therefore, the digital technologies that are implemented according to a standard that each municipal government establishes may not account for factors that are significant to the ethnic communities within those municipalities. Finally, another constraint on the model is the fact that digital technologies that relate to the ethnic affairs of central Chinese communities are directly managed by the central authorities of China (Mao & Zhu, 2025). The complex and diverse ethnic communities that live within major cities in China may benefit from a governance model that enables communities to manage their own affairs and to implement digital technologies that may best benefit those specific communities.

The governance of ethnic affairs in Canada is provided for in a multi-level constitutional structure. The Canadian Multiculturalism Act (1988), the first of its kind in the world, is a law passed by the federal government to recognise and celebrate the multicultural heritage of Canadian society with the goal of preserving that heritage and promoting the participation of all individuals of diverse origins in the society. Section 27 – Multicultural heritage (Government of Canada, 2025) requires that the rights provided for in the Charter be interpreted in a way that considers and recognises the multicultural heritage of Canada and its citizens. Additionally, the Indigenous Languages Act (2019) Ethnocanadian affairs in Canada are governed through a constitutional structure that includes federal, provincial, municipal, and Indigenous self-governing governments – all of which provide the constitution of the government for ethnic affairs governance *yet also* prevent ethnic affairs from being effectively operationalised within the digital government context. The Canadian Multiculturalism Act states that not just the departments within the federal government that are responsible for matters related to multiculturalism are to ensure that ethnic minorities can fully participate in government; all

government agencies, departments, and Crown corporations are to participate in the development and implementation of strategies that ensure that ethnic minorities can fully participate in government. While the Act assigns ethnic affairs and digital ethnic affairs to a variety of government actors, there is no legislation that ensures that those actors are to coordinate with one another in the development of digital government. Furthermore, while Section 27 of the Canadian Charter of Rights and Freedoms declares that the Canadian government must recognise the diversity of its population, the section provides no means of ensuring that the government must take steps to provide for ethnic minorities within the Charter. Finally, while the Indigenous Languages Act, supported by a commitment of the Canadian government to provide USD 1.1 billion in funding to Indigenous Canada, institutes the concept of Indigenous data sovereignty and creates the Office of the Commissioner of Indigenous Languages, there is no legislation that defines any relationship between this office and municipal governments. Thus, while the Constitution of Canada assigns various governments the responsibility for ethnic affairs and digital ethnic affairs governance, the Canadian constitution provides no means of ensuring that those governments coordinate their digital governance efforts. was established to support the Indigenous peoples of Canada in their efforts to reclaim and strengthen their languages, including the creation of the Office of the Commissioner of Indigenous Languages and the commitment of providing adequate and long-term funding to fulfil such a purpose.

The municipal level of ethnic affairs governance in Canada has a diversified structure according to the number and compositions of ethnic and Indigenous peoples that live within each of the country's cities. A comparison of the ethnic affair's digital governance structures in two Canadian cities – Toronto and Vancouver – reveals the ways in which the same basic structure of the Canadian Constitution creates different structures within each municipality. A comparison of Toronto and Vancouver along the same four parameters reveals that while there is some level of development in each of the cities in relation to their ethnic affairs governance models, the normative frameworks for inclusion are developing at a faster rate than the digital and administrative frameworks required to implement those suggested frameworks for inclusion at a large scale.

In terms of decision-making autonomy, both cities had a higher degree of autonomy than China's counterparts, but within certain boundaries to their governance effectiveness. Toronto had autonomy over the development of their Data for Equity (DEF) Strategy and the First Nations, Inuit and Métis Data and Technology Circle (City of Toronto, n.d.; 2022), but only in relation to their municipal divisions. Decisions regarding provincial and federal digital services were outside of municipal Toronto's autonomy entirely. Vancouver had autonomy over the development of their United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) Municipal Action Plan in cooperation with the Musqueam, Squamish, and Tsleil-Waututh Nations, who had a higher degree of recognition within the plan than Toronto had provided to their Indigenous communities, but also had no autonomy over provincial and federal digital services within the same municipality (Vancouver City Council Decision, 2024).

The failures of coordination within each city were similar in nature but existed within the institution of each city. The primary failure of coordination within Toronto existed in the vertical coordination between the municipal government's Indigenous Affairs Office and Data and Technology Circle and both the provincial and federal levels of government. Therefore, a citizen of Toronto may encounter three different digital spaces that serve the same purpose but were established by each of the three levels of government, yet there is no coordination between them. Similarly, while Vancouver established a government-to-government relationship with the First Nations that exist within the region as a means of fulfilling its UNDRIP action plan, there was no digital coordination between the city and those Nations. The integration of digital systems into ethnic affairs governance within these two cities diverged most significantly in terms of the scope of their integration as opposed to their level of sophistication. While Toronto had developed the more technically advanced digital infrastructure for ensuring equity in its city, it had also established both the Data for Equity Strategy and the Digital Infrastructure Strategic Framework to ensure equity in the design of its digital systems. In contrast, Vancouver had a more limited integration of digital systems into its ethnic affairs governance with technical specifications that were limited to the physical infrastructure. In both cities, however, there was no established means of integrating its digital frameworks governing ethnic affairs within government with the digital systems of higher levels of governance within the city.

The most revealing of these differences was in the model of governance that each city employed for its stakeholder participants. Toronto established a means of providing legitimacy to its ethnic and Indigenous communities through the establishment of an advisory body that would have a degree of influence over the data governance decisions of the municipality. Vancouver, in contrast, established a means of providing legitimacy to its Indigenous communities through the establishment of a government-to-government treaty commitment, a higher-order means of providing input legitimacy to those groups. In both cases, however, the outcomes of such efforts were the same: each city's participatory models provided for those ethnic and Indigenous communities to have an influence over the city's governance decisions, but without any improvement in the digital service landscape that it provided to those same ethnic and Indigenous minorities in all levels of governance. Thus, while these two cities' efforts to establish a form of governmental governance that would provide legitimacy to their ethnic and Indigenous minorities were among the most developed in North America; their failure in any outcomes of such efforts was the governing failure that the principles of interoperability and subsidiarity were intended to fix. Inherent within the current structure of governmental IT and digital service governance in Canada is an issue of the deficiencies of the design.

The governance role of technology companies within Canada's digital ethics affairs architecture operated through fundamentally different institutional arrangements than those characterising the Chinese model yet produced an analogous accountability gap by different means. The municipalities of Canada approached the procurement of information technology vendors through competitive

processes that did not require the municipalities to co-develop those technologies with the vendors. The contracts between the municipalities and those vendors did not include any requirements regarding the management of ethnic affairs data. The most advanced such contract was the Digital Infrastructure Strategic Framework that was established by the City of Toronto in 2025 (Toronto Municipal Code, 2025), which required the vendors to perform impact assessments of the potential impacts of their proposed IT systems upon the city's citizens' privacy and established a Digital Citizen Advisor programme that would allow volunteers to provide feedback to the vendors regarding the digital services that the city was developing (City of Toronto, 2022). While these requirements introduced a level of accountability of the vendors that was absent from the majority of information technology vendor contracts that existed within Canadian municipalities, these responsibilities were limited to the City of Toronto's vendors and did not extend to the information technology vendors of the provincial and federal governments, which provide digital services to those same ethnic minority populations.

The conditions under which technology companies were engaged in the delivery of digital services to Indigenous communities revealed the accountability gap most acutely. Outside of the First Nations communities, public health research and the programmes that were to be implemented into those communities were conducted by non-Indigenous researchers and government agencies. As a result, the Indigenous communities were often required to negotiate with those researchers and government agencies in order to gain access to data relating to their own communities. Those agreements between the government agencies and the technology companies regarding the data of the Indigenous communities often did include an agreement regarding the governance of that data, which can provide some means of ensuring that there is transparency and accountability of the technology companies towards those Indigenous partners and communities. However, the accountability of the Indigenous communities to establish an agreement with an interested and responsible party that would commit to the data agreements was something that was lacking in the non-First Nations communities overall. The accountability structure governing the technology company in relation to Canada's ethnic affairs thus exhibits the opposite pathology to that of the Chinese model. The structure of accountability within China is characterised by a partnership between the government and the technology company that excludes any possibility of oversight by the ethnic population. In contrast, the structure of accountability in Canada is established through the fragmentation of oversight power to the technology company among the private, public, and community organisations that are tasked with resolving the digital governance challenges across the Canadian provinces and territories; none of these organisations have the power to impose ethical governance standards upon the technology company.

The governance dynamics that exist between technology companies and the ethnic affairs departments of Canadian governments between 2015 and 2026 are indicative of steps that have been taken to address the issue of accountability but without any resolutions to that issue. The framework for digital governance confidence, established

by the Digital Governance Council (2025), does provide for the application of its principles to technology companies but requires their voluntary application to ethnic affairs departments and does not include any provisions relating to Indigenous data sovereignty. Thus, while the legislative level has begun to incorporate provisions that ensure data sovereignty for Indigenous peoples, no binding national standard has been created that requires technology vendors to provide for such data sovereignty within the terms of their contracts with ethnic affairs departments – an issue to be resolved by the interoperability principle of the framework proposed in this research study: the establishment of a standard for ethnic affairs data governance that must be met by all technology vendors that wish to operate within the Canadian digital ethnic affairs governance architecture.

Furthermore, there are also ethnic minority groups within the country that actively take part in the governance of Canada. Organisations such as the Assembly of First Nations (AFN), Inuit Tapiriit Kanatami (ITK), and the Métis National Council (MNC) are three of the better organised ethnic groups within the country. Additionally, there is a network called the Federal-Provincial-Territorial Network of Officials Responsible for Multiculturalism, Inclusion, and Anti-Racism (FPTORMIA), which shares information amongst itself to better collaborate on the goal of increasing diversity and equity within Canada (Government of Canada, 2024). These ethnic groups have a right to participate in the governance of their own communities, which is another feature of the Canadian government that differs from other governing models. The analysis of stakeholder power has shown different ways in which stakeholders are structured in ethnic affairs governance processes in China and Canada. The stakeholder landscape for China includes government agencies, technology providers, and community and minority stakeholders, with the first two groups having a higher level of power in the system than the third group. In the stakeholder landscape for Canada, several different groups have power in the system: municipal governments, provincial governments, community organisations, and Indigenous communities, all of which have some level of power in the system. Each of these different stakeholder groups creates certain types of constraints on the ability of that country to digitally transform its ethnic affairs governance system. The following sections discuss these constraints for each country.

While the ethnic affairs in Canada are decentralised, the structure of the Government of Canada (2024; 2025) creates challenges for the digital transformation of the municipal governments that provide services to ethnic minorities in the country's major cities. The digital services that are provided to ethnic minorities in cities like Toronto and Vancouver are provided by the municipal, provincial, and federal levels of the Government of Canada, yet each of these levels has different digital platforms and methods of providing services to these ethnic minorities. For instance, the Data for Equity Strategy that is established in Toronto to provide data regarding Indigenous peoples in the city is separate from the digital services provided by the Government of Ontario or the Government of Canada. Similarly, while the municipality of Vancouver has established a government-to-government relationship with the Musqueam,

Squamish, and Tsleil-Waututh Nations, there is no digital relationship established between the city and those Indigenous nations. Thus, the ethnic minorities in these Canadian cities are provided with a fragmented and inequitable experience in the use of the digital government services that are established for them. Another challenge to the digital transformation of these municipal governments is the governance of Indigenous data by these municipalities. While the Indigenous communities have the power to self-govern themselves and their own communities, there is no relationship between the Indigenous communities and the municipal governments of most Canadian cities. For instance, Vancouver does establish the Urban Indigenous Peoples' Advisory Committee, which provides input to the city's council and staff regarding issues that affect Indigenous peoples in the city, but there is no formal relationship between the city and those Indigenous communities. Similarly, while organisations such as Calgary's Urban Aboriginal Initiative and the Metro Vancouver Executive Aboriginal Council are considered partnership tables between those cities and their Indigenous peoples, there is

no formal relationship between these municipalities and their Indigenous communities.

Finally, the complex structure of government in Canada creates significant transaction costs for municipalities that wish to implement digital transformation initiatives. These municipalities must interact with federal, provincial, and municipal governments to secure funding for digital transformation initiatives. These interactions create significant administrative costs for municipalities. Based on the stakeholder analysis conducted above, it is possible to understand how the governance of ethnic affairs in China and Canada are not organised in different ways within their respective countries but according to different overall governing models. Each of the dimensions of those models allows for the determination of the digital transformation capabilities and limitations of each of the countries regarding its ethnic affairs. Table 1 presents a comparison of each of these aspects of the models of each country to allow for a better understanding of their digital transformation capabilities and limitations in the management of their ethnic affairs.

Table 1. Comparative table of structural characteristics of models of China and Canada

Dimension	China (Centralised model)	Canada (Decentralised model)
Locus of decision-making	Central and provincial governments	Federal, provincial, municipal, and Indigenous authorities
Primary governing body	SEAC+United Front Work Department	Heritage Canada+municipal ethnic affairs offices
Role of municipal government	Implementation of central policy	Co-governance with significant local discretion
Role of ethnic/Indigenous organisations	Advisory; limited formal power	Formal participation rights; self-governance recognised
Digital infrastructure	Nationally integrated; large-scale	Fragmented city-level frameworks
Data governance approach	Centralised collection and management	Emerging Indigenous data sovereignty frameworks
Key strength	Operational scale and efficiency	Inclusiveness and community legitimacy
Key weakness	Exclusion of ethnic community voice	Coordination failure and service fragmentation

Source: compiled by the author based on Canadian Multiculturalism Act (1988), The State Council's guiding opinions on accelerating the development of "Internet Plus Government Services" (2016), Law of the People's Republic of China "On Regional National Autonomy" (2016), Indigenous Languages Act (2019), State Council Information Office of the People's Republic of China (2021), National Development and Reform Commission (2022), Government of Canada (2024; 2025), Digital Governance Council (2025), M. Alm  star *et al.* (2025), X. Bai & L. Yang (2025), I.A.P. Nirmani (2025), N.Y. Singgir *et al.* (2025), Law of the People's Republic of China "On Promoting National Unity and Progress" (2026)

The structural comparison between the two models reveals the different theories on which they are built. The Chinese model aims to use the government's digital technology to serve its ethnic groups, while the Canadian model recognises the autonomy and self-governance of these ethnic groups. Each model is blind to the other's concerns. The difference in the theories leads to different practical outcomes for China's and Canada's ethnic minorities. Despite China's development of digital platforms for its citizens, these platforms do not effectively serve the country's ethnic minorities. Similarly, despite Canada's recognition of the self-governance and rights of its Indigenous and ethnic minorities to participate in the governance of the country, there is no digital infrastructure in place to effectively serve these groups. China and Canada have a paradoxical structure in that they have the necessary technical skills or legitimacy to serve their ethnic minorities, but they lack the other component. For the digital governance of ethnic groups to be effectively implemented in these countries, the synthesis of both models is required.

An input-throughput-output legitimacy assessment exposes the specific governance failures of each model.

China's core problem is exclusion: ethnic minority organisations have no role in shaping digital governance processes, and those processes operate without transparency or accountability to the communities they affect. The result is a technically capable system that lacks the legitimacy to serve minority needs effectively. Canada's core problem is fragmentation: while input legitimacy is strong the absence of coordination between decentralised digital governance bodies produces inconsistent service delivery and no mechanism for system-wide accountability. Individual municipalities vary significantly in performance, yet no overarching body ensures coherence or enforces standards. The stakeholder analysis presented above allows to identify the various stakeholders involved in each of the countries' ethnic affairs digital governance systems. However, it does not analyse the relationships between those stakeholders. Table 2 maps the various governing relationships within each of the countries' digital governance systems, including their governing bodies, their relationship to the digital technology companies involved in providing those digital systems for ethnic affairs, and their relationships to the digital technology and digital ethnic affairs transformation

itself. Table 2 utilises the information presented within the country analyses, the municipal analyses, and the analyses of the governing relationships within each of the countries

to create a table that helps to reveal the various governing relationship dynamics within each of the countries' digital ethnic affairs governance systems.

Table 2. Comparative mapping of governance mechanisms in digital ethnic affairs

Governance parameter	China (Centralised model)	Canada (Decentralised model)
Primary decision-making authority	Central government; SEAC as implementing body	Distributed: Heritage Canada (federal), provincial ministries, municipal ethnic affairs offices
Municipal decision-making discretion	Implementation only; no authority to adapt centrally designed platform standards	Significant local discretion within jurisdictional boundaries; no binding coordination across levels
Resource control	Central and provincial governments; technology company partnerships through preferential procurement	Federal funding allocation to provinces and municipalities; municipalities dependent on higher-level transfers
Accountability direction	Vertical upward: municipal offices accountable to provincial and central authorities	Mixed: municipalities accountable downward to residents and upward to provincial/federal funders simultaneously
Technology company role	Co-regulator: Alibaba, Tencent, Huawei co-develop platforms under state mandate without independent community oversight	Vendor: municipal IT contractors deliver platforms under procurement agreements with limited ethnic community oversight
Technology company accountability	State-directed; no independent audit mechanism for ethnic data practices	Procurement-based; no binding ethnic affairs data governance standards for vendors
Community participation mechanism	Absent at platform design level; ethnic organisations hold advisory status only	Formalised in leading municipalities (Toronto's FNIM Circle, Vancouver's UNDRIP partnership) but not extended to provincial/federal levels
Conflict resolution between levels	Central directive prevails; municipal implementation gaps treated as compliance failures	Political negotiation between governments; no formal adjudication mechanism
Indigenous data governance	Not recognised as a distinct governance category	Formally recognised (Indigenous Languages Act (2019), UNDRIP commitments) but not operationally enforced at municipal level

Source: compiled by the author based on Canadian Multiculturalism Act (1988), The State Council's guiding opinions on accelerating the development of "Internet Plus Government Services" (2016), Law of the People's Republic of China "On Regional National Autonomy" (2016), Indigenous Languages Act (2019), State Council Information Office of the People's Republic of China (2021), National Development and Reform Commission (2022), Government of Canada (2024; 2025), Digital Governance Council (2025), M. Alméstár *et al.* (2025), X. Bai & L. Yang (2025), I.A.P. Nirmani (2025), N.Y. Singgir *et al.* (2025), Law of the People's Republic of China "On Promoting National Unity and Progress" (2026)

The findings of the table indicate that the differences between China and Canada relate more to the organisation of the e-government institutions rather than their effectiveness. Such an insight is crucial in understanding the identified limitations and the need for certain reforms within the current structures of these countries' e-government models. China's models are highly centralised, as most of the powers of the government are concentrated within the vertical organisational structure. This limits the possibilities of the participation of the communities of interest in the country and their ability to exercise control over the use of data within the government. In Canada, the division of powers between the federal and state governments creates complications in the coordination of their government agencies and the holistic implementation of their policies. Furthermore, the discrepancy between the level of accountability and control over resources between the different levels of government impacts the ability of local governments to consider the needs of different groups within their populations. Each of the principles identified within the study is associated with specific institutional limitations within the government models of both China and Canada. These principles aim to ensure the coherence of government levels, the interoperability of digital government systems, and the consideration of stakeholders in policymaking. Thus, these principles are elements of a single framework for analysing each of the current models of e-government.

The constraints of both models of digital governance of ethnic affairs are complementary to one another. The strengths of the centralised model of digital governance are also the weaknesses of the decentralised model of digital governance of ethnic affairs. The Chinese model has high operational capacity but lacks inclusiveness. In contrast, the Canadian model ensures that the ethnic and indigenous groups are included in the governance of their affairs but lacks coherence in its management of digital services for these groups. Neither model optimally balances the technological and governance requirements of ethnic affairs. Therefore, the development of an integrated model of digital governance of ethnic affairs that includes the elements of both the Chinese and Canadian models may present a solution to the existing problems of both the Chinese and Canadian models of digital governance of ethnic affairs.

A hybrid institutional model for digital ethnic governance

Based on the analysis of each of these models, the effective model for the governance of ethnic affairs of Chinese and Canadian citizens living in urban areas of China and Canada, respectively, was a model based on three key principles: subsidiarity, compatibility, and participatory legitimacy. These three principles aim to address the specific shortcomings of each of these governance models, but each of these principles is only effective in the context of its

implementation in conjunction with the others. The principle of subsidiarity suggests that governance functions should be performed at the lowest level of government that is capable of performing them effectively (Hüther & Vogel, 2021). In the context of ethnic affairs digital governance, this principle suggests that the national and central governments should focus upon establishing standards and guarantees for the ethnic affairs digital services that are provided to their citizens, but that the municipal governments and ethnic organisations within each country should have the flexibility to create ethnic affairs digital services according to the needs of the ethnic communities with whom they are most familiar. In the Chinese context, this suggestion for subsidiarity would suggest the establishment of ethnic affairs digital platforms and standards at the national level, but with flexibility for the municipal governments and ethnic organisations within each province to create digital ethnics. While the current structure of the ethnic affairs digital governance structure in China does provide for an ethnic affairs digital council that oversees the efforts of the county-level ethnic affairs offices, the establishment of digital councils within each province that include representatives of those counties and ethnic organisations may provide for a more effective distribution of responsibilities among the different levels of government (National Development and Reform Commission, 2022).

In Canada, the principle of subsidiarity would suggest the need for the federal government to establish a digital infrastructure framework for ethnic affairs services. The federal government has, to date, attempted to address the fragmentation of government services across the country through the implementation of national technical standards and frameworks. These efforts could be expanded to the development of a framework for ethnic affairs digital services, with particular provisions made for the recognition of Indigenous data sovereignty (Government of Canada, 2024; 2025). The principle of interoperability requires that digital governance platforms enable the exchange of data and coordination of services between different organisations while retaining the autonomy of those organisations (Margariti *et al.*, 2022). Such a principle would require a technical architecture for ethnic affairs governance that can accommodate the diversity of technical architectures and governance frameworks that exist within the multi-level governance of ethnic affairs. In both of the countries, the principle of interoperability will require the development of an open technical architecture for ethnic affairs governance.

In China, such a technical architecture already exists in the governmental system as a whole, but it does not yet have interoperability with other organisations in charge of ethnic affairs. An application programming interface (API) that allows for other organisations with ethnic affairs mandates to access and contribute to the data systems of the government would help to enable such interoperability. In China, such a technical architecture already exists in the governmental system as a whole, but it does not yet have interoperability with other organisations in charge of ethnic affairs. China has made significant investments in building an integrated digital government infrastructure at the national level. A series of

national policies issued since 2016, including frameworks for data sharing, “Internet Plus government services”, and integrated big data systems, have laid the foundation for a unified, collaborative digital government at the macro level, with one of the central challenges being the breaking down of entrenched data silos across departments (The State Council’s guiding..., 2016). In Canada, interoperability will require the establishment of a common technical standard for ethnic affairs governance, as there is no such standard established at this time. A national Ethnic Affairs Digital Governance Standards Framework that establishes the requirements that all digital ethnic affairs governance platforms must meet in order to be implemented would provide a solid framework for establishing interoperability (Digital Governance Council, 2025). Since most communities served by ethnic affairs platforms are linguistically diverse (e.g., Inuit communities in Nunavut), it is essential to ensure that digital platforms are multilingual (Inuit Tapiriit Kanatami, 2018). This requirement implies the need to involve community translators in the platform development team.

The principle of participatory legitimacy holds that social processes and outcomes are only equitable and legitimate if those who are to benefit from such processes have a genuine and substantive opportunity to influence the process by which such outcomes are achieved (Stratu-Strelet *et al.*, 2021). Within the context of digital ethnic affairs governance, this principle means that the ethnic minority communities and organisations should be institutionalised as a means of co-creating the digital solutions that are to emerge from such a digital governance system. Digital governance initiatives that have occurred within these two contexts have indicated that co-creating digital solutions with ethnic minority communities has provided benefits to the digital governance initiatives, such as an increased likelihood of platform adoption by the targeted communities, more accurate identification of the needs of those communities, and increased willingness of those communities to share data with the government as a means of creating effective ethnic affairs plans.

For China, the institutionalisation of these co-creation units within the ethnic affairs offices would provide benefits to the country’s already-powerful digital governance system. By working with the ethnic minority communities and organisations to create digital platforms and services, the country can increase the likelihood that the digital system will effectively respond to the needs of all of its citizens and ethnic groups. For Canada, while co-creation is recognised as a value of the country’s government and its ethnic affairs offices, the actual implementation of those values is inconsistent. The creation of dedicated co-design units within the municipal ethnic affairs offices and the allocation of funds to these units would provide benefits to the country and its ethnic minority groups. After analysing each of the governance models presented above, shortcomings of the governance models in each of these countries were identified. Both countries are experiencing the same challenge of digitising their ethnic affairs, but in each country the failures of those models of governance are of a different nature. Table 3 helped to name and categorise each of those failures and the interventions that may help to address those failures within each country.

Table 3. Institutional pathologies and reform interventions in digital ethnic affairs governance

Type of governance failure	Manifestation in China	Manifestation in Canada	Proposed intervention	Expected outcome
Participatory deficit	Ethnic communities excluded from platform co-design	Co-creation inconsistently implemented	Institutionalised co-design units	Increased platform adoption and data sharing
Coordination failure	SEAC data siloed from national platform	Federal-provincial municipal misalignment	API integration; subsidiarity framework	Coherent multi-level service delivery
Standards vacuum	Ethnic affairs excluded from national digital standards	No national ethnic affairs digital framework	Inclusion in national data governance policy	Interoperable, multilingual platforms
Legitimacy deficit	Top-down design reduces community trust	Participation rhetoric without resources	Funded co-design; community translators	Increased trust and service uptake

Source: compiled by the author based on Canadian Multiculturalism Act (1988), The State Council's guiding opinions on accelerating the development of "Internet Plus Government Services" (2016), Law of the People's Republic of China "On Regional National Autonomy" (2016), Indigenous Languages Act (2019), State Council Information Office of the People's Republic of China (2021), National Development and Reform Commission (2022), Government of Canada (2024; 2025), Digital Governance Council (2025), M. Alméstar *et al.* (2025), X. Bai & L. Yang (2025), I.A.P. Nirmani (2025), N.Y. Singgir *et al.* (2025), Law of the People's Republic of China "On Promoting National Unity and Progress" (2026)

What Table 2 revealed is that the failures in both China and Canada have an inverse structure to one another yet, yet share the same symptom of the inability to effectively deliver digital services to ethnic minorities. The failures in China are present at the intersection between the government and civil society, yet the government appears to have all of the technical means to allow for civil society to have a role in the implementation of the government's decisions. The failures within Canada, however, are at the intersection between the different levels of the government, yet the government appears to have the will to include ethnic minorities in their decisions but does not have the means to enable that will to be expressed through coordinated governmental efforts. The inversions of the failures within these two nations indicate that the means of fixing the digital ethnic failures in each of these countries will be different. The failures within China, therefore, suggest that the interventions that should be made to fix the country's digital ethnic failures will be made at the governmental level prior to those that are related to technology. The interventions that will be made within Canada, however, will occur in the opposite order – there is an indication of the will of the Canadian government to include ethnic minorities in their digital services, but there are no technical interventions made to enable those ethnic minorities to be included in the country's digital services. The concept of a "governance failure" within the context of China and Canada relates to the interaction between the technical, governmental, and cultural elements of the countries' governments. Thus, attempts at applying the same solutions within each nation's digital ethnic issues will likely be ineffective unless they are tailored to each nation's specific type of failure.

The proposed three-component framework indicated that the key constraint on the digital governance of ethnic affairs in both China and Canada is not the availability of digital technologies but the institutional structures within which those technologies could be effectively employed to provide services to ethnic communities. A comparison of the national models of ethnic affairs governance reveals an inverse configuration of constraints. In China, despite the availability of an integrated digital infrastructure on a national scale, there are limited mechanisms for incorporating the positions and interests of ethnic communities in

governance. In Canada, in contrast, there are institutional mechanisms for the participation of ethnic communities in governance, but the lack of coordination among governing authorities limits the availability of digital governmental services to those ethnic communities. The type of failures of the institutional structures of China are of the type associated with limited participation by ethnic communities in governance processes, while the failures of the institutional structure of Canada are of the type associated with the fragmentation of governing authorities. The proposed framework can be employed in the assessment of the effectiveness of digital governance in both China and Canada. In China, the institutional structure should be reorganised to grant more discretion to lower levels of governance and to permit the incorporation of the positions of different societal groups into the governance process. In Canada, the main task facing the governing authorities is to coordinate the activities of the different authorities that are currently engaged in governance of ethnic affairs. The attempt to apply identical solutions to the problems of the two countries reduces the effectiveness of digital governance of ethnic affairs.

● DISCUSSION

The results of this study showed that the digital transformation of ethnic affairs in both China and Canada has arisen from the competition between centralised and decentralised governance models in the context of both countries' developments in digital government. Each country's governing model was found to be effective in managing ethnic affairs within its government, not as a result of the individual components of its digital government model, but in relation to its ability to address the challenges that are created by each model's foundational structure. Overall, then, these findings indicated that the digital transformation of ethnic affairs in China and Canada should be approached as a governance model challenge rather than a technical challenge.

The findings of this study were brought into dialogue with the conceptual conclusions of J. Hu & X. Zhang (2024), who examined the digital governance of China with a focus on the management of disputes and the maintenance of stability within the country. The analysis conducted for this study helps to confirm the applicability of the

conclusions of J. Hu & X. Zhang to the context of China's ethnic affairs. Furthermore, while J. Hu & X. Zhang proposed that the structure of China's digital governance model reflects a country that generally prioritises stability and efficiency in its governmental entities and services, the findings of this study suggest instead that such a model is vulnerable within the context of China's ethnic communities and their distinct cultural and societal characteristics. Overall, these conclusions are in alignment with the findings of J. Große-Bley & G. Kostka (2021), who also investigated the implementation of smart cities within China's city of Shenzhen and found that the gap between the digital governance "big data dreams" of China versus the digital governance experiences that actually exist within the nation is due to the inherent issues with the country's attempt to integrate digital technologies into its ethnic communities in ways that respect their established cultural communities and social structures. Thus, as with China's efforts to integrate digital technologies into its ethnic communities in general, the findings of this study suggest that China's digital governance model is deficient in the absence of the digital governance frameworks proposed within this study.

These results can also be situated in the context of existing research on China's digital engagement with its ethnic and diasporic communities. For instance, M. Thunø & Y. Wang (2024) have published research showing that China's smart diasporas are utilised as a means of extending the country's system of social control into areas outside of its borders – indicating the means by which the country has historically managed its ethnically distinct populations. Each of these findings is consistent with the findings of this research study as to the participatory elements that are lacking within China's system of urban ethnic affairs governance, leading to the conclusion that such co-creation is actually required within that governmental body. Another related study that is more directly applicable to China's systems of ethnic minority governance is that of L. Huang *et al.* (2023), who discovered that digital technology implemented within regions of Guangxi that contain ethnic minorities experienced improvements to the provision of services to those ethnic minorities if the technology was adapted to the ethnic minorities of those areas, but that such adaptations are outside of the centralised governance system of China. K. Ma & H. Zhang (2023) published a similar study, finding that while the digital economy of China has resulted in a reduction in income inequality between the ethnic minorities and the remainder of the country's citizens, such benefits are provided inconsistently to those ethnic minorities. Finally, J. Yu (2022) published a study of the use of digital technology in the educational systems of China's ethnic minority communities, discovering that the same benefits began to emerge for those communities if the technology was adapted to their cultures and languages, but only inconsistently within the current governance structure of the nation.

Of significant interpretive value for the results of this study were the studies by authors including C. He *et al.* (2024) and H. Jia (2024), who investigated, respectively, the innovation and optimisation of grassroots governance in China in general and the impact of digital infrastructure improvements upon the ability of China's migrant

populations to access its public health services. Each of these studies indicated that the vertical structure of China's government creates constraints upon the digital empowerment of the country's sub-national populations, as well as upon the ability of those sub-national populations to become integrated with the remainder of the country's digital infrastructure. The results of this study indicate a correspondence between these findings and those of the studies by C. He *et al.* and H. Jia, suggesting both that the vertical structure of China's government contributes to the deficiencies in the ability of China's municipal offices for ethnic affairs to provide digital services to its ethnic populations, as well as to the structural failures in the integration of those ethnic populations with the country's digital platforms that can be resolved through the implementation of the governance model proposed in this study.

In discussing the results that relate to the Canadian decentralised model, a study by V. Singh & J. Chobotar (2022) on the barriers to online government services in Canada revealed that the digital divide in Canada exists due to the fragmented nature of the government services that exist at the federal, provincial, and municipal levels. These findings confirm the coordination failure that exists within Canada's current governmental model, *yet also* provide support for the proposed solution to that failure. The consequences of fragmentation in relation to the digital services that are provided to Canadian citizens extend beyond the inefficiencies in the government's service provision. Some of Canada's ethnic and diasporic communities that exist within its digitally advanced nations have established their own digital spaces and platforms for organisation and communication, as well as for the development and management of their own self-organised digital spaces and platforms that exist independently of those established and managed by the government (Boichak & Kumar, 2022). The implications of such findings regarding these ethnic communities' autonomous and self-organised digital spaces and platforms are significant in the context of Canada's fragmented government and digital government platforms and services. Specifically, the lack of digital government platforms for various ethnic groups and communities creates the opportunity for those groups to initiate and manage their own digital platforms and spaces to serve their communities, indicating that those ethnic groups have begun to effectively fulfil the role of the government itself within these communities. Thus, one suggestion for the framework for improving Canada's governmental digital platforms for ethnic affairs is to consider both the coordination between the different levels of the government (federal, provincial, and municipal) and the coordination between those ethnic communities and their self-organised digital spaces and platforms. This dual recommendation is supported by the findings of authors Y. Chen *et al.* (2020), which determined that decentralised digital platforms for ethnic communities create the most value for those communities if the autonomy of each individual digital platform is preserved but if those digital platforms are also able to coordinate with each other. The absence of such coordination between ethnic communities' self-organised digital platforms is reflected in the fragmentation and inequalities within the digital spaces of those communities and their digital platforms, indicating a need

for each of those digital platforms to be incorporated into an overarching framework for managing and supervising ethnic affairs in Canada.

The dimensions of the framework that relate to the concept of stakeholder engagement and co-production in the digital domain have been examined through research studies on the topic. The aspects of participation that will be studied within the framework will relate to the study of stakeholder engagement and co-production within digital governance. In order to effectively co-produce the delivery of public services through the implementation of digital technologies and platforms, a governance architecture is required, as discussed by E. Not *et al.* (2024). In their study, the authors noted that any governance architecture for digital platforms must be able to satisfy a variety of requirements of the institutions that employ those platforms, such as requirements related to transparency, accountability, accessibility to the public, and administrative coherence. The authors also noted, however, that if these requirements are not fully integrated into the governance architecture for the digital platform, the resulting platform will only provide efficiency to the administration of the public service but will neglect the requirements of the communities from whom those administrators receive necessary resources to provide those services. The results of this study are consistent with these findings. As such, the deficiencies within both the Chinese and Canadian models of digital governance that relate to the concept of participation cannot be fixed through the implementation of co-design initiatives alone; rather, the models would need to be adjusted to incorporate participation in a manner similar to the three-principal model of digital governance that was proposed within this study. Furthermore, while each of these governance models has some similarities in regard to the requirements for participatory digital platforms, there are also some differences; China's model has primarily focused upon the decentralisation of co-design authority from the upper levels of the government to the citizens, while Canada's model has focused upon the coordination of co-design initiatives that already exist within each Canadian province but that have no relation to one another.

The main requirement for China is the creation of mechanisms for the downward decentralisation of co-design authority, while for Canada the challenge is the horizontal coordination of processes that already exist within the country but that have no relation to the co-creation of digital governance of ethnic affairs. An additional perspective from which to analyse the failures of digital governance of ethnic affairs in both countries is that of the relational theory of stakeholders. Most models of governance make an assumption of the independence of the stakeholders involved in the governance of a certain object or process, assuming only that each stakeholder is either present or absent in that governance (Corazza *et al.*, 2023). The failures of governance in both China and Canada manifest not in the lack of stakeholders in the digital governance of ethnic affairs in either country but in the failures of interdependence between those stakeholders. The Chinese model for managing ethnic affairs fails due to the exclusion of ethnic organisations from the decision-making processes regarding digital governance of ethnic affairs, while the Canadian

model for digital governance of ethnic affairs fails despite the presence of the various ethnic stakeholders in the governance process but due to a lack of coordination among those stakeholders. Both of these failures, either in coordinating the efforts of the stakeholders or in the participation of the stakeholders in the digital governance process, are equally likely to lead to ineffective digital governance of ethnic affairs; the failure to recognise this in either Canada or China has led to the ineffective establishment of digital governance of ethnic affairs in both countries.

A study of the digital governance models for flood mitigation in Sri Lanka by K. Mendis *et al.* (2024) reveals that one of the critical success factors for such a system is the presence of a means of including the voice of the local community. The lack of means of providing feedback on the digital system leads to a gap between the digital system's functioning and the needs of the local population. Similar trends are present in the digital governance models managing ethnic affairs in both China and Canada. In both of these countries, the digital systems used to manage ethnic affairs systematically marginalise ethnic minorities. However, as found in the studies of ethnic affairs management in these two countries, there are significant differences in how these countries include (or exclude) ethnic minorities in their digital systems. The Chinese system completely lacks means of allowing for interaction of ethnic minorities, while Canada has such a system in place, but it is underfunded. The discussion of the results of the research presented in this paper indicates that the conclusions that can be drawn from the research are both consistent with and extend the conclusions of existing research in the area. The research confirmed that the effectiveness of digital governance models is based not on the digital and legislative aspects of the models but, instead, on the aspects of legitimacy and coordination of the governance actors within the model. Furthermore, the analysis of the failures of the centralised and decentralised models for ethnic affairs indicates that the creation of a framework that is based upon the synthesis of the two models provides an effective new model for reforming the ethnic affairs governance structures in both China and Canada.

● CONCLUSIONS

The results of this research demonstrate that each of these two countries has indeed created a governance model for its ethnic affairs, but also that the deficits of each model are not resolvable within the model itself, but only through the synthesis of the strengths of each of those models. The centralised model that prevails in the governance of China is characterised by a high level of operational capacity and a developed digital infrastructure. The presence of digital platforms that serve hundreds of millions of users and the implementation of smart city solutions at the municipal level ensure effective governance. However, the model features significant imbalances in the aspect of legitimacy of governance. The government formulates policies without the participation of ethnic minorities, and there are no mechanisms to take into account the cultural and linguistic diversity of Canadians in the governance process. Thus, despite the high level of coordination in the governance of China, the governance model is insufficiently adaptive to the diversity of Canadians.

The decentralised model that prevails in the governance of Canada features the opposite characteristics of the centralised model of China. The model features a high level of legitimacy in the participation of citizens in the governance process. The municipal governments and indigenous peoples participate in the decision-making process in the formulation of digital governance tools. However, the lack of mandatory coordination between the federal, provincial, and municipal governments results in fragmented digital governance systems. The problems resulting from the lack of interoperability of digital governance systems between municipal and Indigenous self-government authorities result in difficulties implementing common governance standards. The structural complementarity between these two models of government helped to frame the three-principle integrated governance framework that was proposed within this paper. Each of these principles was founded as a resolution to the recognised deficiencies within each

of these government models. Further studies in these areas could investigate in what ways the ethnic minorities in each of these countries have embraced the digital government platforms that have been created by their governments, as well as in what ways the principles of this proposed governance framework may lead to improvements to the legitimacy and equity in the digital government platforms that are established in other similar contexts for urban governance of ethnic minorities.

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Обмеження та рішення для цифрової трансформації міських етнічних справ: погляд зацікавлених сторін

Юлі Чен

Науковий співробітник

Хайнанський провінційний інститут етнічних досліджень

570000, просп. Гуосін, 9, м. Хайкоу, Китайська Народна Республіка

<https://orcid.org/0009-0008-2138-3270>

Анотація. Актуальність дослідження зумовлена зростаючою необхідністю цифрової трансформації державного управління та викликами, які така трансформація створює для етнічно різноманітного міського населення. Метою цього дослідження була розробка орієнтованої на зацікавлені сторони системи для визначення інституційних обмежень цифрової трансформації управління етнічними справами в міському Китаї та Канаді. У дослідженні використовувався порівняльний аналіз документів, картування зацікавлених сторін та багаторівневий аналіз правових та політичних рамок управління в Китаї та Канаді. Результати демонструють, що Китай та Канада розробили принципово різні моделі управління етнічними справами, обмеження яких є структурними, а не індивідуально вирішуваними. Централізована модель Китаю забезпечує високу операційну ефективність та єдину цифрову інфраструктуру, проте породжує дефіцит легітимності в усіх аспектах вхідних, пропускну та вихідних даних. Ці дефіцити виникають через виключення організацій етнічних громад із спільного проектування платформи, слабку сумісність між Національною державною комісією з питань етнічних справ та національними системами даних, а також управлінську роль великих технологічних корпорацій без незалежного нагляду. Прийняття Закону про національну єдність та прогрес ще більше посилює концентрацію управління в партійних структурах, зменшивши доступність культурно чутливих цифрових послуг на муніципальному рівні. Децентралізована модель Канади, навпаки, демонструє сильну легітимність вхідних даних, що ґрунтується на конституційно визнаних мультикультурних та корінних правах. Однак вона демонструє постійні провали в координації та дефіцит легітимності результатів через фрагментацію на федеральному, провінційному, муніципальному та корінному рівнях управління. Дані з Торонто та Ванкувера свідчать як про відмінності в механізмах участі, так і про постійні розриви у підзвітності між інституціями самоврядування корінних народів та муніципальним наданням цифрових послуг. Результати цього дослідження можуть бути застосовані до інших країн з подібними урядовими моделями у справах етнічних меншин та внести свій вклад у існуючу наукову літературу з теми цифрової трансформації та управління справами етнічних меншин

Ключові слова: субсидіарність; сумісність; партисипативна легітимність; моделі управління; корінні групи; мультикультуралізм

Results of achieving the objectives of tax and customs administration in the National Revenue Strategy

Oleksii Naidenko*

PhD in Economics, Associate Professor
Simon Kuznets Kharkiv National University of Economics
61165, 9A Nauky Ave., Kharkiv, Ukraine
<https://orcid.org/0000-0003-0638-3965>

Kateryna Hunko

Deputy Director, Head, Customs Service Adviser (1st rank)
State Customs Service of Ukraine
04119, 11-g Dehtiarivska Str., Kyiv, Ukraine
PhD in Economics, Senior Lecturer
Simon Kuznets Kharkiv National University of Economics
61165, 9A Nauky Ave., Kharkiv, Ukraine
<https://orcid.org/0000-0002-1717-5937>

Abstract. Reforming the tax and customs system in order to improve the instruments of tax and customs administration is an important direction of the strategic development of fiscal relations in Ukraine. The National Revenue Strategy until 2030 is a fundamental document that sets out the key vectors of reform in the field of customs and tax relations. The aim of the article was to analyse the implementation of the strategic objectives of the National Revenue Strategy in the sectors "Tax Administration" and "Customs Administration" and to substantiate possible directions for adjusting these objectives under martial law. The paper analyses statistical data on the implementation of the strategic objectives of customs and tax administration in the National Revenue Strategy in 2024-2025. Using the method of generalisation, information on the objectives of tax and customs administration in 2024-2025 was synthesised. Through analytical methods, the study examined the state of anti-corruption efforts in tax and customs authorities; Ukraine's position in the Corruption Perceptions Index; statistics on tax information exchange; the shadow market for alcoholic beverages and tobacco products; the state of control over the use of cash registers and software cash registers by taxpayers; the status of tax debt repayment by taxpayers; and the level of remuneration of customs and tax inspectors in Ukraine and selected foreign countries. The results of surveys on public trust in tax and customs authorities were analysed, as well as the state of public outreach and explanatory work carried out by these authorities. Key performance indicators to be used in assessing the effectiveness of customs authorities were summarised, along with the state of technical support and equipment for customs control. Problematic aspects of implementing the strategic objectives of customs and tax administration within the National Revenue Strategy were identified. Directions for adjusting the strategic objectives of the National Revenue Strategy in the sectors of tax and customs administration were substantiated. The practical significance of the results lies in the synthesis of problematic aspects of implementing the strategic objectives of the National Revenue Strategy in the sectors of tax and customs administration

Keywords: debt; budget deficit; smuggling; supervisory authorities; anti-corruption measures; transfer pricing; digitalisation

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*Corresponding author (oleksii.naidenko@hneu.net)



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● INTRODUCTION

In December 2023, the Cabinet of Ministers of Ukraine approved the National Revenue Strategy until 2030, the primary aim of which was to ensure an increase in budget revenues and to strengthen efforts to combat tax evasion and the shadow economy (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 2023). The Strategy's main objectives were divided into four blocks: tax policy, tax administration, customs policy and customs administration. Due to martial law, the Ukrainian budget has been receiving significantly lower revenues. The growth of tax receipts has largely been driven by inflationary fluctuations (which increase revenues from indirect taxes), by rising social standards and tax rates (which boost revenues from personal income tax and the military levy), and by increases in national and local tax rates (including rent payments and the single tax). Despite the wartime conditions, Ukrainian enterprises continue to operate and generate profit. Over the first nine months of 2025, 75.6% of enterprises reported profits, and corporate income tax revenues increased by 177.8 billion UAH between 2022 and 2025 (Official website of the State Statistics Service of Ukraine, 2025). However, the scale of tax evasion and the level of the shadow economy continue to rise.

Over the period 2022-2025, the revenues of the Consolidated Budget increased by 2.1 trillion UAH. However, budget expenditures also rose, and at an even faster pace – by 2.9 trillion UAH, which led to an increase in the budget deficit from 845 billion UAH in 2022 to 1.6 trillion UAH in 2025. Therefore, it may be argued that, when formulating the National Revenue Strategy, the state should have paid attention not only to revenue-raising measures but also to the strategic directions of budget spending. According to statistical data, tax and customs payments remain the main source of budget revenues and, by the end of 2025, accounted for 58% of the total revenues of the Consolidated Budget of Ukraine, whereas in 2021 this figure stood at 87.4% (Information from the Ministry of Finance of Ukraine..., n.d.). This indicates the presence of systemic problems specifically in tax and customs administration, which affect the performance of the revenue side of the budget and hinder the reduction of the budget deficit. The importance of addressing issues in tax and customs administration has been examined in academic research. In particular, the study by A.V. Lisovyi *et al.* (2024) focuses on combating the shadow economy through tax regulation. The authors emphasise the need to prevent taxpayers from using schemes for the illegal reimbursement of value added tax (VAT) and for evading corporate income tax. Attention is also given to the interaction between customs and tax authorities, as key indirect taxes simultaneously function as both tax and customs payments.

According to O.P. Hrebelnyk *et al.* (2021), an important direction for economic development is the modernisation of customs-duty administration in the context of integration processes. The authors propose several avenues for improving the customs administration system in order to realise the fiscal potential of customs security, one of which is the unification of procedures for levying customs payments. In his monograph, R. Cherkasskyi (2023) focuses on combating crime in the customs sphere and on ways to enhance customs administration, one of which involves

regulating the interaction between customs authorities and other state bodies to prevent and counter criminal activity in the customs domain. I. Mishchenko (2023) identifies the unjustified adjustment of customs value as a key problem in the work of customs authorities, as it leads to conflicts with foreign economic activity (FEA) operators. This complicates and delays the customs clearance of goods in both export and import operations. N.I. Atamanchuk (2025) highlights the need to harmonise Ukrainian legislation on customs-duty administration with the provisions of the European Union's Directives and Regulations. According to the author, such harmonisation should be based on the introduction of an electronic customs declaration system, the simplification of customs procedures, the unification of requirements for non-tariff regulation, and the strengthening of measures to combat smuggling.

In their work, M.I. Krupka *et al.* (2021) emphasised that the implementation of horizontal monitoring measures within the framework of tax control should enhance the efficiency of tax authorities. At the same time, such monitoring must be based on interaction and coordination between tax authorities and other public bodies in Ukraine. V. Tarashchenko *et al.* (2025) examined the issue of tax evasion, which is global in nature. To address this problem, Ukraine must introduce a system for the exchange of tax information with foreign countries as swiftly as possible. According to P. Kerimov (2025), the Ukrainian tax system does not contribute to reducing income inequality and highlights the need to introduce progressive taxation of personal income, as wealthier segments of the population should be subject to higher taxes. The existing system of personal income taxation leads to tax evasion. It can be observed that most studies have focused primarily on general issues of tax and customs administration without providing a specific analysis of the implementation of the strategic objectives of the National Revenue Strategy. This prompted the authors to examine the effectiveness of implementing the strategic objectives of the National Revenue Strategy for 2024-2025. The aim of the article was to assess the results of implementing the strategic objectives of the National Revenue Strategy in the sectors of "Tax Administration" and "Customs Administration" under martial law.

● MATERIALS AND METHODS

The theoretical basis of the study consisted of the fundamental principles of financial and economic science, the results of academic research, and the works of Ukrainian and international scholars (Hrebelnyk *et al.*, 2021; Cherkasskyi, 2023; Dragneva & Wolczuk, 2025). The study is largely grounded in the provisions of the National Revenue Strategy until 2030 and the regulatory framework related to the implementation of the strategic objectives of the National Revenue Strategy in the sectors of tax and customs administration (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 2023).

Methods of analysis and synthesis were applied to examine the state of implementation of the objectives of the National Revenue Strategy (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 2023), as well as to assess specific areas of tax and customs administration. In

particular, these methods were used to analyse the state of anti-corruption efforts in the tax authorities (State Tax Service of Ukraine, 2026) and customs authorities (The level of business trust..., n.d.; Corruption perceptions index, 2025); indicators of illegal trade in alcoholic beverages and tobacco products (Monitoring of illegal trade..., 2025; Andriiv, 2026); the dynamics of tax debt (Tax debt dynamics, n.d.); the level of remuneration in the tax authorities of Austria, the Netherlands, Lithuania and Latvia (Tax examiner salaries by country, n.d.), as well as in the customs authorities of these countries (Customs inspector salaries by country, n.d.). In addition, the state of control over the use of cash registers and software cash registers by taxpayers was analysed (Ukrainians made 870 million payments..., 2026), as well as Ukraine's progress in implementing the EU-Ukraine Association Agreement in the sector "Customs Matters" (Government Office for Coordination of European and Euro-Atlantic Integration, 2026).

Statistical and economic methods were used to collect, process and analyse over time the indicators characterising the directions of implementation of the National Revenue Strategy (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 2023), The state of tax administration in Ukraine: Report on the study results (2025), as well as the assessment of the performance of customs authorities (Kuziakiv *et al.*, 2026). The graphical method was applied to visualise the number of objectives of the National Revenue Strategy (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 2023) across the blocks of tax and customs administration. The method of grouping information was used to systematise the indicators by which the quality of tax and customs administration was assessed (The state of tax administration..., 2025; Kuziakiv *et al.*, 2026).

The method of generalisation was applied to summarise the results of the analysis of reports by the consulting company Kantar, which periodically studies the shadow market for tobacco products (Monitoring of illegal trade..., 2025), and by the European Business Association, which conducts research in the field of customs and tax administration (Andriiv, 2026), regarding the state of the shadow market for alcoholic beverages and tobacco products. This method was also used to summarise the results of anti-corruption efforts in the tax and customs authorities of Ukraine (Corruption perceptions index, 2025; The level of business trust..., n.d.). The abstract-logical method was applied to substantiate recommendations for improving the strategic objectives of the National Revenue Strategy (Decree of the Cabinet of Ministers of Ukraine No. 1218-r, 223) in the sectors of tax and customs administration, as well as to formulate conclusions. The proposals and recommendations were prepared taking into account the results of the implementation of the strategic objectives of the National Revenue Strategy, as well as the academic approaches of scholars who have examined similar issues in their research.

● RESULTS

The National Revenue Strategy until 2030 is a roadmap for the activities of the tax and customs authorities, aimed at ensuring their reform in line with the requirements of European tax and customs legislation and at increasing the

level of public trust in these authorities. The National Revenue Strategy until 2030 provides for a set of 207 strategic reform objectives across various directions (Fig. 1).

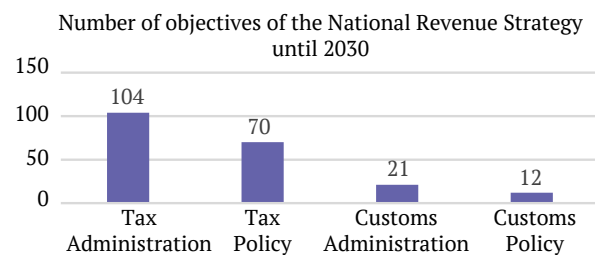


Figure 1. Number of objectives of the National Revenue Strategy by blocks

Source: compiled by the authors based on Ministry of Finance of Ukraine (2025)

The implementation of these strategic objectives is primarily the responsibility of the Ministry of Finance of Ukraine (89 objectives), although the State Tax Service of Ukraine (81 objectives), the State Customs Service of Ukraine (21 objectives) and other executive authorities (16 objectives) are also designated among the implementers. In 2024, 85 strategic objectives of the National Revenue Strategy were to be fulfilled, and in 2025 – 74. At the same time, in 2024 the authorities managed to complete only 68 tasks (75.3%).

In 2025, 22 out of 74 measures were being implemented with delays (Ministry of Finance of Ukraine, 2026). In 2025, 12 measures that should have been completed in 2024 were carried out (while 9 measures from 2024 remain unfulfilled). Based on the 2024-2025 Report, it is possible to state that there is a certain lag in the timetable for implementing the strategic objectives of the National Revenue Strategy: incomplete implementation of EU legislation on excise tax administration and customs administration concerning customs control procedures; delays in introducing electronic e-audit systems and risk-management systems; a slowdown in measures aimed at strengthening the integrity of tax authorities, enhancing anti-corruption programmes and increasing public trust in tax authorities; no reduction in the volume of tax debt; and slow progress in the personnel reform of customs and tax authorities.

It is worth noting that the Verkhovna Rada of Ukraine, which performs the legislative function, is not included among the bodies responsible for implementing the strategic objectives of the National Revenue Strategy. At the same time, executive authorities are not authorised to adopt amendments to legislation, whereas the implementation of most strategic objectives of the National Revenue Strategy requires amendments to the Tax Code and/or the Customs Code of Ukraine, which is the direct responsibility of the Verkhovna Rada of Ukraine. Therefore, it was considered that the Verkhovna Rada of Ukraine should also bear responsibility for the quality of implementation of the strategic objectives of the National Revenue Strategy. The main strategic objectives of tax and customs administration set out in the National Revenue Strategy for 2024-2025 are presented in Table 1.

Table 1. Strategic objectives of the National Revenue Strategy for 2024-2025 by blocks of tax and customs administration

Strategic objectives	Directions for implementation in 2024-2025
1. Tax Administration	1.1. Implementation of the STS Anti-Corruption Programme 1.2 Increasing public trust and creating a positive image of the STS 1.3 Management of tax risks (compliance risks) 1.4 Improvement of the processes for organising and conducting desk and on-site audits 1.5 Automation of tax control procedures for transfer pricing 1.6 Exchange of information for tax purposes 1.7 Improvement of excise tax administration 1.8 Elimination of problems related to the collection, transmission, storage and analysis of data on settlement transactions 1.9 Improving work with tax debt of individuals and legal entities 1.10 Digitalisation of the activities of the STS 1.11 Organisational and staffing measures of the STS
2. Customs Administration	2.1 Strengthening anti-corruption measures and increasing trust in customs authorities 2.2 Support for and cooperation with business 2.3. Development of international customs cooperation 2.4 Institutional development of customs authorities 2.5 Development of IT and provision of technical means for customs control

Source: created by the authors based on Decree of the Cabinet of Ministers of Ukraine No. 1218-r (2023)

Results of the implementation of selected strategic objectives of the National Revenue Strategy are presented below. Anti-corruption programmes in the tax and customs authorities (objectives 1.1 and 2.1). Corruption within the tax and customs authorities remains a significant obstacle to building an effective system of tax and customs administration in Ukraine. The State Tax Service of Ukraine and the State Customs Service of Ukraine have approved Action Plans for the implementation of the Anti-Corruption Programme for 2023-2025. According to a survey of FEA operators, corruption and bribery concern 21.3% of respondents and constitute one of the four key problems of customs administration (Kuziakiv *et al.*, 2026).

Corruption on the part of the tax authorities primarily concerns VAT refunds and is a matter of concern for 11% of respondents (The state of tax administration..., 2025). In 2023, specialised anti-corruption bodies within the STS drew up 271 administrative protocols for corruption-related offences; in 2024, 458 such protocols; and in 2025, 197 administrative protocols (State Tax Service of Ukraine, 2026). According to Transparency International's Corruption Perceptions Index, Ukraine ranked 104th out of 182 countries in 2025, improving its position by one place compared to the previous year. Over 2018-2025, a positive trend can be observed in terms of ranking, while the CPI score increased only moderately – from 32 points in 2018 to 36 points in 2025 (Corruption perceptions index, 2025). As evidenced by the reports on the implementation of the National Revenue Strategy (Ministry of Finance of Ukraine, 2025; 2026), not all anti-corruption measures have been implemented.

Increasing trust in the tax and customs authorities (objectives 1.2 and 2.2). There has been no significant breakthrough in the level of trust that taxpayers and foreign-trade operators place in the tax and customs authorities. Although, according to the World Customs Organization (online survey "Assessment of the perception of integrity in the Customs Service of Ukraine"), the level of trust in customs authorities is gradually increasing (The level of business trust..., n.d.). According to the findings of Kuziakiv *et al.* (2026), the index of perception of customs authorities' performance fell to 0.29, whereas in 2020 it

stood at 0.43. The state of tax administration in Ukraine: Report on the study results (2025) states that 41.8% of respondents view the performance of customs and tax authorities negatively. Such discrepancies between survey results can be explained by the fact that different groups of respondents were involved, whose views may not coincide. In addition, the World Customs Organization primarily assesses institutional changes within customs authorities, while taxpayers evaluate the practical changes they encounter when crossing the border. Therefore, this objective has largely not been fully achieved.

Risk-management system within the State Tax Service of Ukraine (objective 1.3). In 2024, the Resolution of the Cabinet of Ministers of Ukraine No. 854 (2024) introduced a risk-management system within the tax authorities. The risks were divided into four groups: registration risk, reporting risk, payment risk, and declaration risk. However, it remains unclear why reporting risks and declaration risks were separated into two distinct categories, since both relate to the process of preparing and/or submitting tax reports. In this context, they should logically constitute a single risk group. Moreover, the system does not include risks related to the unlawful application of tax benefits, tax evasion risks, and other essential categories. The Resolution also lacks specific indicators for assessing tax risks. Additionally, the official website of the State Tax Service of Ukraine does not provide information on the implementation of the experimental risk-management system, particularly regarding the internal orders issued by tax authorities to operationalise the Resolution. This lack of transparency in the introduction of the tax risk-management system indicates that this strategic objective has not been fully achieved.

Improvement of the processes for organising and conducting desk and on-site audits (objective 1.4). The procedure for selecting taxpayers for inclusion in the schedule of planned tax audits remains problematic, as the provisions of the Order of the Ministry of Finance of Ukraine No. 524 (2015) do not contain a clear procedure for distinguishing taxpayers according to specific risk criteria (high, medium, low). There is also no feedback mechanism

between the tax authorities and taxpayers regarding the assignment of taxpayers to a particular risk category, which prevents taxpayers from promptly responding to errors made in the course of maintaining their tax records. Furthermore, there is no clearly defined procedure for conducting on-site (factual) audits, as no subordinate legislation has been adopted. The provisions of tax legislation do not take into account the norms of labour legislation, since the duration of an on-site audit is measured in calendar days rather than working days, which implies the possibility of conducting audits during night-time hours. Thus, a significant number of tasks under this strategic objective have not been fulfilled and require legislative regulation.

Automation of tax-control procedures for transfer pricing (objective 1.5). In 2024, the tax authorities introduced an Automated System for working with large datasets to conduct risk analysis in the area of transfer pricing. This represents a positive development, as it enables the prompt identification of risks associated with controlled transactions. However, the issue of establishing a price range when determining compliance with the arm's-length principle remains unresolved. Taxpayers are provided with a list of sources for obtaining quoted prices, yet they must independently take into account all prices for comparable goods in order to form the price range. If not all prices are considered, the resulting range will be incorrect and, consequently, the price determined for a foreign economic transaction will also be incorrect. As noted by A.M. Kotenko *et al.* (2021), the difficulty in finding comparable prices (profitability, profit) creates problems for foreign economic operators and leads to unjustified determination of the price range in a controlled transaction. The results of the analysis confirm that this objective has not been fully achieved.

Exchange of information for tax purposes (objective 1.6). Exchange of tax information is one of the key requirements put forward by the EU to Ukraine in order to reduce tax evasion and aggressive tax-planning schemes. In autumn 2024 (Press Office of the State Tax Service of Ukraine, 2024), the first exchange of information took place, under which Ukraine received tax information from 50 foreign jurisdictions and provided tax information to 51 foreign jurisdictions, and in 2025 (The State Tax Service successfully..., 2025) the number of jurisdictions from which information was received and to which information was provided increased to 71. The information-exchange system is expanding each year, which contributes to a positive image of the Ukrainian authorities. The relevance of international tax-information exchange is confirmed by S. Godar *et al.* (2024). Large taxpayers are particularly interested in this, as it affects their business reputation. This strategic objective envisages the completion of all tasks by 2030, and its implementation is progressing in line with the established timetable.

Improvement of excise-tax administration (objective 1.7). The issue of excise-tax administration remains pressing. The state has not yet introduced electronic excise stamps, which were intended to strengthen control over the circulation of alcoholic beverages and tobacco products. The introduction of the electronic excise stamp has been postponed to 1 November 2026 due to existing technical implementation problems. The share of the shadow

tobacco market in 2025 reached 17.8% (Monitoring of illegal trade..., 2025), while the share of illicit alcohol amounted to approximately 21-41% (Andriiv, 2026). Ukrainian legislation does not incorporate the provisions of EU law concerning the marking of gas oil and kerosene (Council Directive No. 95/60/EC, 1995). Therefore, a significant number of tasks required for the implementation of this strategic objective have not been fulfilled.

Eliminating problems with the collection, transmission, storage and analysis of data on completed settlement transactions (objective 1.8). The issue of using cash registers (RRO) has long been present in tax relations between the state and taxpayers. While legal entities are obliged to use cash registers in trading operations, individual entrepreneurs enjoyed certain exemptions until 2022. However, from 2022 onwards only single-tax payers of the first group are permitted not to use cash registers, whereas all other individual entrepreneurs are required to use them in their business activities. The number of RRO and PRRO in use, as well as the number of inspections concerning their application, is increasing (Ukrainians made 870 million payments..., 2026). Failure to use cash registers is one of the ways of evading taxation, and therefore the state's decision to strengthen control in this area is justified, even under martial-law conditions. When using cash registers, taxpayers encounter problems related to system freezes on the side of the tax authorities due to overloads or technical work on the tax-authority server, as well as the absence of backup copying, which leads to the loss of sales data during the working day. Consequently, the tax authorities must further improve the process of using RRO/PRRO by taxpayers to ensure the full implementation of this strategic objective.

Improving the work on tax debt of individuals and legal entities (objective 1.9). Martial-law conditions have worsened taxpayers' ability to fulfil their tax obligations to the state. While at the end of 2021 the amount of tax debt stood at UAH 105.7 billion, by the end of 2025 it had reached UAH 278.5 billion (Tax debt dynamics, n.d.). At the same time, the number of instalment arrangements granted to taxpayers decreased from 226 at the end of 2021 to 17 at the end of 2025, which indicates a lack of interest on the part of the tax authorities in cooperating with taxpayers under the difficult conditions of martial law. It should be noted that even in mid-2022, when a moratorium on sanctions for failure to comply with tax obligations was in force, the amount of tax debt increased only to UAH 127.7 billion. Therefore, there are no real results demonstrating the achievement of this strategic objective.

Digitalisation of the activities of the tax and customs authorities (objectives 1.10 and 2.5). Digitalisation of the work of the tax and customs authorities should become one of the key directions of tax and customs administration. The tax and customs authorities have strategic digitalisation plans in place, which are also aimed at harmonising EU and Ukrainian digital technologies. However, digitalisation challenges do not allow the full effectiveness of tax and customs administration to be ensured. For example, Ukraine has not introduced an online resource for the registration of tax invoices, which would allow buyers to monitor in real time the registration status of tax invoices issued by sellers. In the work of the customs authorities, no online resource

has been introduced for determining and adjusting customs value on the basis of artificial intelligence, which leads to constant disputes between customs authorities and foreign-trade operators (Kuziakiv *et al.*, 2026). There is also no online resource for forming price ranges within the framework of transfer pricing, which results in significant time losses for taxpayers searching for comparable prices on global markets. The e-audit system has not been fully implemented in the work of the customs authorities (Ministry of Finance of Ukraine, 2026), which prevents the full application of the principles of customs post-audit in Ukraine.

Organisational and staffing measures of the tax and customs authorities (objectives 1.11 and 2.4). One of the directions of reforming the structure of the tax and customs authorities is the optimisation of staff numbers. The State Customs Service of Ukraine employs around 10,000 people (Ulyanenko, 2024), while the tax authorities employ around 20,000 people (Ukraine to reduce the number..., 2024). At the same time, the number of employees in the customs and tax authorities of some EU countries is lower. For example, in Austria approximately 1,750 people work in the customs authorities (Federal Ministry Finance Republic of Austria, n.d.). In Estonia, around 1,100 people work in the tax and customs authorities (Estonian tax and customs board, n.d.). In Latvia, the number of customs-authority employees averages 520 (Sardiko, 2024). The issue of remuneration in the tax and customs authorities of Ukraine also remains unresolved. The average annual salary of a customs inspector in Ukraine ranges from UAH 425,000 to UAH 725,000 (approximately EUR 8,500-14,500). In Austria, a customs inspector may receive EUR 44,000-76,000 per year, in the Netherlands EUR 40,000-68,000, in Lithuania EUR 17,000-29,000, and in Latvia EUR 12,000-18,000 (Customs inspector salaries by country, n.d.). The average annual salary of a tax inspector in Ukraine is around UAH 230,000 (approximately EUR 4,600). In the Netherlands and Lithuania, a tax inspector earns on average EUR 30,000 per year, while in Latvia the figure is EUR 14,000 (Tax examiner salaries by country, n.d.). This strategic objective must continue to be implemented in order to establish an optimal number of employees in the

customs and tax authorities and to ensure that their remuneration is not lower than the European level.

Support and cooperation between the customs authorities and businesses (objective 2.2). It should be noted that despite the rather extensive reform of the customs and tax authorities, the issue of communication with taxpayers and foreign-trade operators remains inadequate. According to the survey results, the website of the State Customs Service of Ukraine ranked only third among the sources from which foreign-trade operators obtain useful information (Kuziakiv *et al.*, 2026). It is also worth noting that the official YouTube channel of the State Customs Service of Ukraine contains only 30 video materials, and the channel has 473 subscribers. This is a significant shortcoming in the work of the customs authorities, as it is through video materials (consultations, seminars, etc.) that foreign-trade operators should learn how to correctly complete customs documentation. A notable achievement of the customs authorities is the launch of the official Telegram bot of the State Customs Service of Ukraine – “Single window for international trade”, which helps foreign-trade operators obtain information on the status of customs clearance and check the balance of funds in their current account (In test mode, the State Customs Service..., n.d.). Problems remain unresolved, including unjustified adjustments of customs value by customs authorities, difficulties faced by taxpayers when applying the UKT ZED Classification, and differing approaches to customs clearance at customs posts across the regions of Ukraine. Therefore, this strategic objective has not been fully achieved.

Institutional development of the customs authorities (objective 2.4). One of the key directions of reforming the customs authorities is the introduction of key performance indicators (KPIs) for assessing the effectiveness of customs authorities (which were not implemented in 2024-2025 as envisaged by the National Revenue Strategy). The Draft Law of Ukraine No. 12360 (2024), which regulates such indicators, was only adopted as a basis in December 2025. The assessment of the efficiency and effectiveness of the customs authorities is to be carried out in the following areas (Table 2).

Table 2. Blocks of indicators for assessing the effectiveness of customs authorities

Blocks of indicators for assessing the effectiveness of customs authorities	Indicators
Creating favourable conditions for facilitating trade and promoting competition	changes in the number of authorised economic operators; participation of authorised economic operators in international trade; average release time for goods imported into the customs territory of Ukraine; average release time for goods under the customs export regime
Administration of customs and other payments	performance indicator for customs authorities' fulfilment of the total forecasted amount of customs-duty revenues; effectiveness of post-customs control; effectiveness of control over the correctness of customs-value determination; share of claims filed against customs authorities in which court decisions were delivered not in favour of the customs authorities
Protection of society, public health and environmental safety, and combating the illicit movement of narcotic substances and weapons	effectiveness of the use of scanning systems during customs control; changes in the quantity of excisable goods (tobacco and alcoholic products) detected and seized by customs authorities; effectiveness of control over the movement of cultural property across the customs border of Ukraine; effectiveness of measures taken to protect intellectual-property rights
Organisational development of the activities of the customs authorities	share of customs-authority officials who have completed professional-development training; level of compliance with service discipline; effectiveness of mechanisms for reporting corruption offences committed by customs-authority officials and abuses of their official position; gender-balance ratio within the staff of the customs authorities

Source: compiled by the authors on the basis of the Draft Law of Ukraine No. 12360 (2024)

The draft law does not contain a clear methodology for applying these assessment indicators or for determining their combined impact on the overall evaluation of the performance of the customs authorities, which makes it impossible to adopt a well-founded approach to their application and creates obstacles to the full implementation of this strategic objective. The conclusion of international trade agreements and Ukraine's accession to the Common Transit procedure is undoubtedly a positive development. According to the results for 2025, an increase was recorded in the number of transit declarations processed under the Common Transit procedure, which indicates the trust of Ukrainian foreign-trade operators and of the 36 countries applying this procedure (EU Member States, the European Free Trade Association countries, the United Kingdom, Türkiye, North Macedonia, Serbia) in the customs authorities of Ukraine ("Customs visa-free" 2025: A record year..., 2025). At the same time, a key problem in international cooperation remains the implementation of the EU-Ukraine Association Agreement in the "Customs matters" chapter and the achievement of mutual recognition of authorised economic operator status, as the final mutual recognition agreement has not yet been signed. This somewhat complicates customs clearance for Ukrainian businesses holding authorised economic operator status when operating in other countries. As regards the Association Agreement, according to the results for 2025 (Government Office for Coordination of European and Euro-Atlantic Integration, 2026), 5% of the tasks under the "Customs matters" chapter were completed (96% in total since the Agreement entered into force). This indicates that not all measures under this strategic objective have yet been implemented.

Ensuring that the customs authorities are equipped with technical means of customs control (objective 2.5). One of the persistent problems in the work of the customs authorities has been the outdated technical means of customs control. Survey results among foreign-trade operators indicate a deterioration in the state of technical equipment in 2025, with the indicator standing at 3.5 out of 5 (Kuziakiv *et al.*, 2026). At the same time, according to the decision of the Accounting Chamber of Ukraine, 43% of technical means of customs control are non-operational (Decision of the Court of Auditors No. 42-1, 2024). According to the data of the Accounting Chamber of Ukraine, the customs authorities are attempting to address this issue and are gradually renewing their technical means of customs control (Customs updated the technical..., 2025). This objective has a final implementation deadline in 2027; therefore, the tasks related to equipping the customs authorities with modern technical means of customs control are being carried out within the timeframe established for achieving the strategic objectives.

The National Revenue Strategy is a document that contains a substantial number of strategic objectives. However, some of these objectives require refinement in light of current needs. The authors propose the following measures to address the problematic aspects of implementing the strategic objectives of the National Revenue Strategy in the "Customs Administration" and "Tax Administration" sectors. Reducing the scale of corruption, increasing trust in supervisory authorities, and strengthening cooperation with businesses (objectives 1.1, 1.2, 2.1, 2.2) concern not

only the customs and tax authorities. This issue must be addressed at the state level. The main corruption risks in tax administration relate to the determination of tax liabilities, VAT budget reimbursement, audit and inspection activities, and the granting of tax benefits. Customs-related corruption risks primarily arise in connection with the determination and adjustment of customs value, the classification of goods under the Ukrainian Classification of Goods for Foreign Economic Activity (UKT ZED), audit and inspection activities, and the granting of customs benefits. Most of these risks can be mitigated through the introduction of artificial-intelligence technologies in determining tax liabilities or customs value. The issue of granting tax benefits requires thorough control over the persons to whom such benefits are provided.

One of the approaches to addressing the issue of tax benefits was the adoption of Order of the Ministry of Finance of Ukraine No. 474 (2024), yet the real results of implementing this methodology will only be observable at the end of 2026 or even in 2027, as the methodology provides for assessing the effectiveness of measures once every two or three years. The problem of VAT budget reimbursement should be resolved by abolishing VAT refunds for Ukrainian transactions – in such cases, the negative VAT balance would be carried forward to the tax credit of the following reporting month. It is proposed to retain only VAT refunds to the taxpayer's account for the export of goods, provided that foreign-currency proceeds are received within the time limits established by the National Bank of Ukraine. The primary purpose of audit and inspection activities should not be purely punitive but, first and foremost, preventive and explanatory, as violations of tax or customs rules often occur due to the lack of clarity in tax legislation. Reducing corruption risks in customs and tax administration is a direct path to increasing trust in the customs and tax authorities.

In addition, the use of body cameras by customs authorities at customs posts may be regarded as a positive development, as it is also expected to reduce corruption risks during customs clearance. The decision concerning the use of body cameras by tax authorities provides only a right, rather than an obligation, to use them under the applicable provisions (Order of the Ministry of Finance of Ukraine No. 470, 2020). To expand cooperation between customs and tax authorities and taxpayers, joint events should be held at which the parties can exchange views on problematic aspects of tax and customs regulation; to increase taxpayers' awareness of changes in tax and customs legislation, the customs and tax authorities should publish textual or video digests explaining key amendments; to reduce violations committed by taxpayers, the tax and customs authorities should provide, in the public information space, clarifications regarding the violations they have recorded and offer recommendations on how taxpayers can avoid such violations in the future.

Improving the risk-management system within the State Tax Service of Ukraine (objective 1.3). Amendments should be introduced to the provisions of Resolution of the Cabinet of Ministers of Ukraine No. 854 (2024), which established the risk-management system in the tax authorities, in order to merge the declaration risks and reporting risks, as these are closely interrelated. In addition, it would be

appropriate to add to the risk groups those associated with the unlawful application of tax benefits and tax evasion. The tax authorities should also provide detailed coverage of the risk-management system on their online platforms, particularly with regard to the internal orders adopted to implement the Resolution of the Cabinet of Ministers of Ukraine. Improving the processes of organising and conducting desk and on-site audits (objective 1.4). It is proposed to amend the procedure for selecting taxpayers for inclusion in the schedule of planned tax audits, with a view to establishing a clear methodology for including taxpayers in the audit schedule (Order of the Ministry of Finance of Ukraine No. 524, 2015). Furthermore, the provisions of the Order should require that taxpayers be informed of the criteria under which they are deemed non-compliant with legislation and may be classified into a particular risk category. A separate regulatory act should be adopted to govern the procedure for conducting on-site tax audits, in order to prevent violations of labour-law provisions when such audits are carried out at night.

Improving tax-control procedures for transfer pricing (objective 1.5). The current transfer-pricing control system provides for a moratorium on penalties during the period of martial law. At the same time, it envisages substantial penalty amounts that will be imposed once martial law is lifted. The size of these penalties is several times higher than the criminal liability thresholds for tax evasion. To reduce violations in the transfer-pricing process, the state should introduce a price-agreement mechanism for foreign-economic transactions not only for large taxpayers but also for medium-sized businesses. In addition, an online resource should be created through which taxpayers can compare, in real time, the prices of their own products with those of comparable products and accurately determine the price range within which foreign-economic contracts may be concluded. Rules for classifying certain jurisdictions as low-tax should also be harmonised, as the current legislation focuses primarily on the existence of a double-taxation-avoidance agreement rather than on the tax rate in a given jurisdiction. Therefore, in this case, a key criterion must be defined for determining when a transaction is considered not to comply with the arm's-length principle: the tax rate in the jurisdiction or the existence of a double-taxation-avoidance agreement.

Exchange of tax information (objective 1.6). The system must continue to develop in order to ensure Ukraine's fulfilment of its obligations under the Multilateral Competent Authority Agreement on the Exchange of Information and to reduce the level of tax evasion in Ukraine, as the Ukrainian tax authorities receive information on the foreign accounts of Ukrainian residents, while the tax authorities of foreign countries receive information on the accounts of their citizens in Ukraine. Improving the administration of excise tax (objective 1.7). The problem of excise-tax administration should be addressed primarily through the implementation of all EU excise-tax legislation. For example, Ukraine has not yet transitioned to excise-tax rates expressed in euros for alcoholic beverages and electricity. In addition, Council Directive No. 95/60/EC (1995), which is intended to harmonise Ukrainian and EU legislation in the context of importing such goods into Ukraine, still requires ratification. The introduction of an

electronic excise stamp should also contribute to reducing the scale of smuggling and counterfeit goods. At the same time, coordination between the customs and tax authorities is essential, as smuggling falls within the remit of the customs authorities, whereas issues related to counterfeit goods overlap between the areas of responsibility of both customs and tax authorities. Furthermore, the issue of monitoring the activities of duty-free shops, which are often used in tax-evasion schemes, must be resolved.

Improving the system for collecting, transmitting, storing and analysing data on settlement transactions (objective 1.8). In the context of digitalisation, control over settlement transactions should extend to all taxpayers. This also concerns the so-called micro-enterprises (single-tax payers of the first group), who are exempt from the obligation to register settlement transactions, which theoretically creates opportunities for tax evasion. However, this primarily affects the income-based eligibility criterion for remaining within the simplified taxation system, rather than the amount of tax payable, as single-tax payers of the first group pay a fixed tax amount determined by the subsistence minimum for an able-bodied person. The EU is gradually introducing rules on financial and settlement-transaction control for micro-businesses (Regulation (EU) of the European Parliament and of the Council No. 2024/886, 2024), which should serve as a signal for the Ukrainian legislature regarding the future implementation of similar provisions.

Reducing the volume of tax debt (objective 1.9). Under the conditions of martial law, the state must apply various measures aimed at reducing the volume of tax debt. First and foremost, this concerns the mechanism of instalment and deferral of tax-debt repayment, the number of which is currently decreasing. Secondly, the state should provide for the possibility of private financial institutions issuing loans to taxpayers for the repayment of tax debt. This would supply the budget with additional funds. Furthermore, to reduce tax debt, the state may, in certain cases, act as a purchaser of the products manufactured by taxpayers who have outstanding tax debt. This would allow the taxpayer to receive funds from the state, enabling them to fully or partially repay their tax debt, while the state does not incur additional losses and may potentially receive a higher amount of tax revenues as a result of the sale of the products it commissions from the taxpayer.

Improving the procedure for the use of digital technologies by supervisory authorities (objectives 1.10 and 2.5). It is proposed that customs and tax authorities should more extensively introduce artificial-intelligence technologies into their operations in order to reduce the human factor in the adoption of certain managerial decisions. This primarily concerns the determination of tax liabilities (for the tax authorities) and the determination of customs value (for the customs authorities). To reduce conflict situations between taxpayers and supervisory authorities, an online resource for the registration of tax invoices needs to be introduced. Information from this resource should be accessible not only to the tax authority and the seller who issues and registers the tax invoice, but also to the purchaser, enabling them to receive timely information on the registration of the tax invoice, which serves as the basis for including the corresponding expenses in the VAT tax credit.

Improving personnel policy in the tax and customs authorities (objectives 1.11 and 2.4). To address the problem of attracting young people to work in state authorities, it is proposed to introduce personal-income-tax benefits for the first three years of employment, allowing young specialists either to be exempt from paying personal income tax or to pay it at a reduced rate. An important example of youth support is the experience of Poland, where individuals under the age of 26 are exempt from income tax (Ivanov & Naydenko, 2025). One of the directions of reform in the customs sphere has been the adoption of the professional standard "Customs Inspector", which outlines the key professional competencies that prospective customs-authority employees should possess upon completing their higher-education studies. The introduction of such a professional standard requires higher-education institutions to cooperate with the customs authorities in order to improve the educational process and provide students with the knowledge necessary for employment in the customs service. At the same time, it is important not to overlook other students who will be employed in fields related to customs brokerage, foreign-economic operations, and similar areas. Therefore, in this context, higher-education students should be provided with a synthesis of skills and competencies that will enable them to be in demand both within the customs authorities of Ukraine and in the private sector.

Developing international customs cooperation (objective 2.3). First and foremost, the customs authorities must create incentives for foreign-trade operators to obtain the status of authorised economic operators, as this should simplify the customs-clearance procedures for foreign-economic transactions. Secondly, state authorities must accelerate the implementation of EU legislation in Ukraine, including in the areas of tax and customs administration. One of these tasks will be the amendment of the Customs Code of Ukraine, planned for 2027, which should take into account the key provisions of Regulation (EU) of the European Parliament and of the Council No. 952/2013 (2013).

Improving the assessment of the effectiveness of the work of the customs and tax authorities (objective 2.4). The existing assessment indicators do not allow for a comprehensive evaluation of the performance of individual tax or customs inspectors. The authors propose applying an indicative performance-assessment model that would take into account a set of indicators related to the activities of customs or tax inspectors, using weighted coefficients. For example, such indicators may include the number of customs declarations processed or tax returns audited without identifying violations on the part of the taxpayer; a reduction in the number of tax or customs violations; an increase in the amount of taxes voluntarily paid by taxpayers; a reduction in the volume of tax debt; a decrease in the number of taxpayer enquiries concerning tax and customs administration, and similar indicators.

Updating the technical means of customs control (objective 2.5) should become one of the key directions for preventing the smuggling of goods. It is worth noting that the EU applies Regulation (EU) of the European Parliament and of the Council No. 2021/1077 (2021), which demonstrates the EU's strategic approach to financing the renewal of technical means of customs control. In Ukraine,

a similar programme operated during the period 2004–2010, but no new strategic documents have been adopted since then. Therefore, it is proposed to approve a State Programme that, for a period of up to five years, would provide funding for the renewal of technical means of customs control. According to the Accounting Chamber of Ukraine, the State Customs Service has adopted the Procedure for the Provision, Accounting and Use of Technical Means of Customs Control in the territorial bodies of the State Customs Service (Customs updated the technical..., 2025), but this document is not publicly available.

● DISCUSSION

The results obtained in this study corroborate the findings of other scholars who have examined various aspects of improving tax and customs administration. For example, the issue of VAT fraud (as a manifestation of corruption) is raised in the study by A. Bussy & A. Tassi (2025). According to their research, the EU VAT system often leads to customs fraud related to cross-border transactions between EU Member States, where sellers either charge VAT without remitting it to the tax authorities or claim VAT refunds to which they are not entitled. M.T. Braml & G.J. Felbermayr (2022) argued that the VAT exemption for export operations results in inflated declarations of export customs value, which ultimately reduces tax revenues by approximately EUR 64 billion per year. In their conclusions, the authors emphasised the need for strict control over value-added tax, which aligns with the position of the authors of this study regarding the prevention of corruption (objectives 1.1 and 2.1), as VAT administration is associated with the highest corruption risks in Ukraine.

M.I. Krupka *et al.* (2021) argued that horizontal monitoring should become an additional element of internal tax control, helping to minimise tax risks in the activities of taxpayers. To improve interaction between taxpayers and fiscal authorities in the process of tax control, it is necessary to enhance taxpayers' level of tax culture and legal awareness, as well as to develop preventive tax control, which would contribute to fostering a high tax culture within society. Ensuring effective cooperation between supervisory authorities and taxpayers will help reduce the volume of tax debt and increase tax revenues to the budgets. These conclusions are consistent with the authors' proposals regarding the implementation of objectives 1.3 and 1.9.

The ideas of tax-risk management were further developed by E. Abad-Segura *et al.* (2025), who examined the relationship between tax compliance and tax fraud, focusing on fraud-detection strategies implemented in EU Member States. The study highlighted substantial variation in the effectiveness of anti-evasion policies at the national level. The authors proposed an indicator based on various tax-compliance metrics, which reveals significant differences in the effectiveness of tax policy across countries and enables the identification and management of tax risks. This supports the conclusions of the present study regarding tax-risk management (objective 1.3). N. Haletska (2025) emphasised the need for a comprehensive update of the EU-Ukraine Association Agreement to ensure further bilateral and continuous trade liberalisation between the EU and Ukraine on Ukraine's path towards EU membership. This requires greater coordination and synchronisation

between EU institutions and EU Member States. R. Dragneva & K. Wolczuk (2025) underscored the value of Ukraine's international cooperation within the framework of the Association Agreement, which enabled duty-free access for Ukrainian goods to EU markets during wartime. This confirms the authors' argument regarding the necessity of developing international cooperation (objective 2.3).

The spread of digitalisation in taxation and customs-management processes was highlighted in the publications of Yu.M. Pavlyutin (2023), Y. Chen & M. Liu (2025), and M. Gutium (2025), who concluded that digital transformation – including the use of artificial-intelligence technologies – should contribute to improving tax services and reducing the time required for customs clearance of goods and cargo. These proposals are fully aligned with the recommendations of the authors of this article concerning the implementation of objectives 1.10 and 2.5. E. Eberhartinger & M. Zieser (2021) focused on the interaction between tax authorities and taxpayers, which is based on taxpayers providing full transparency and enhanced tax-control systems, while tax authorities offer certainty regarding the tax treatment of complex transactions. This approach primarily reduces the risks of tax evasion and fosters partnership-based relations between supervisory authorities and payers of tax and customs duties, which corresponds to the authors' proposals within the framework of objectives 1.2 and 2.2.

The authors' proposals concerning the need to identify the causes of tax debt and to develop measures aimed at reducing it are supported by the works of M.B. Javareshk *et al.* (2024), who argued that tax debt in certain cases arises as a result of psychological factors, and A.E. Biondo *et al.* (2022), who identified three key determinants of tax debt among taxpayers: income, social influence, and the quality of public goods. Therefore, a systematic effort by supervisory authorities is required to reduce tax debt, involving the identification of its underlying causes and the search for repayment solutions agreed upon with taxpayers. The relevance of improving the excise-tax administration system for the implementation of objective 1.7 is confirmed by the publication of B. Oude Breuil *et al.* (2022), which examined the problem of illicit trade in tobacco products and proposed monitoring online parcels and postal consignments to reduce the scale of such activities, concluding that online and postal channels are increasingly used for smuggling.

I. Tache & M.P. Luca (2021) argued that transfer-pricing issues are a priority for multinational companies or for those engaged in transactions with related parties. The scholars examined the impact of transfer pricing on corporate tax policy and analysed practical aspects that contribute to effective management of transfer-pricing risks, which is fully aligned with the conclusions of the authors of this article regarding the implementation of objective 1.5. The importance of implementing objective 1.4 is confirmed by the work of A. Belnap *et al.* (2024), which notes that tax audits compel firms to make adjustments to improve their tax efficiency and generally hinder business operations. One may agree with these scholars; however, audits should indeed be applied, but their primary purpose must be preventive rather than purely punitive.

The need to combat corruption (objectives 1.1 and 2.1) was further developed in the scholarly works of

B. Iancu (2024), who argued that anti-corruption efforts should be carried out within the framework of administrative prevention and law enforcement, and N. Elsayed & B.W. Mandikiana (2026), who examined the bidirectional relationship between corruption and economic growth at the country level. Their results demonstrated that the link between corruption and growth is highly dependent on context and the strength of governance structures. This assertion is reasonable, as higher levels of citizens' income tend to reduce the risks of corrupt behaviour.

O. Cherkunov (2025) examined the links between the proposed performance-assessment system based on key performance indicators for customs authorities, national strategic-planning documents, global and regional standards, and the World Customs Organization's Performance Measurement Mechanism. The author proposed additional key performance indicators for customs authorities to assess the quality and effectiveness of customs-personnel performance, which are intended to improve the overall quality of their work. In other words, the emphasis is placed on the implementation of the institutional-development objectives of the customs authorities (objective 2.4). The issue of evaluating the performance of customs authorities was further developed by M. Borovyk *et al.* (2025), who highlighted the problem of the absence of comprehensive methods and indicators for assessing the effectiveness of customs operations and proposed the introduction of an integrated performance-assessment system, as envisaged by the National Revenue Strategy.

O. Zhuk & N. Hoi (2023) devoted their research to the issue of combating tax evasion as an important direction in the development of Ukraine's tax policy. Achieving this objective is impossible without implementing EU legislation on the exchange of tax information with the tax and customs authorities of other EU Member States within the framework of Council Directive (EU) No. 2016/1164 (2016). These assertions are fully consistent with the authors' proposals regarding the implementation of objective 1.6. Thus, the problems of customs and tax administration exist in many countries, yet the approaches to solving them overlap and are aimed at combating corruption, strengthening interaction between taxpayers and supervisory authorities, applying artificial-intelligence technologies in customs and tax administration, and addressing tax and customs fraud in order to reduce the scale of tax evasion. These measures must be implemented systematically to achieve a genuinely positive outcome.

● CONCLUSIONS

The results of the study demonstrate that the objectives of the National Revenue Strategy are highly relevant and address the problematic issues that arise in the field of customs and tax administration in EU countries. The adoption of the National Revenue Strategy in 2023 was a positive signal from the state to taxpayers, aimed at resolving numerous challenges in tax and customs administration. At the same time, as the authors have emphasised above, the National Revenue Strategy should have envisaged not only strategic approaches to revenue generation but also a strategic vector for budget expenditure under martial-law conditions. The strategic objectives of the National Revenue Strategy in the areas of customs and tax

administration are not being implemented in a timely manner, which indicates the reluctance of certain public authorities to improve the state of customs and tax administration (more than 20% of the tasks for 2024-2025 have not been completed on time).

The study identified a number of existing problems in the implementation of the strategic objectives of customs and tax administration, which largely stem from the absence of a comprehensive approach to combating corruption; the growth of the shadow economy and tax and customs fraud; declining levels of trust in tax and customs authorities; the lack of concrete action by public bodies to resolve contentious issues related to transfer pricing, reducing tax debt, administering value-added tax (including the registration of tax invoices) and excise tax (due to incomplete implementation of EU legislation); the absence of real incentives for young people to seek employment in customs or tax authorities; violations by supervisory bodies of the procedures for conducting audits; low levels of remuneration in Ukrainian supervisory authorities compared with EU countries; and the unsatisfactory condition of customs-control equipment, among other issues.

To address the existing problems of customs and tax administration in Ukraine, it is proposed to: reform the remuneration system within the customs and tax authorities of Ukraine; build partnership-based relations between supervisory authorities and payers of tax and customs duties; resolve contentious issues concerning the organisation

of tax audits and transfer pricing; reduce the volume of tax debt through state procurement from enterprises with outstanding tax liabilities; introduce preferential taxation conditions for young employees during their first three years of work in supervisory authorities; reduce the level of smuggling and customs fraud through the use of modern technical means of customs control; and implement well-grounded performance indicators for assessing the effectiveness of tax and customs authorities in order to evaluate the quality of work of each individual employee. Future research should focus on issues related to the implementation of the provisions of the National Revenue Strategy 2030 in the sectors of customs and tax policy, as these directly affect the volume of tax revenues – in particular, the introduction of progressive personal-income taxation, reduced VAT rates on socially important goods, alignment of excise and environmental-tax rates with EU legislation, and the assessment of the feasibility of granting certain types of tax and customs benefits.

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Результати реалізації цілей податкового та митного адміністрування в Національній стратегії доходів

Олексій Найденко

Кандидат економічних наук, доцент
Харківський національний економічний університет імені Семена Кузнеця
61165, просп. Науки, 9А, м. Харків, Україна
<https://orcid.org/0000-0003-0638-3965>

Катерина Гунько

Заступник директора, керівник, радник митної служби 1-го рангу
Державна митна служба України
04119, вул. Дегтярівська, 11-г, м. Київ, Україна
Кандидат економічних наук, старший викладач
Харківський національний економічний університет імені Семена Кузнеця
61165, просп. Науки, 9А, м. Харків, Україна
<https://orcid.org/0000-0002-1717-5937>

Анотація. Реформування податкової та митної системи для удосконалення важелів податкового та митного адміністрування є важливим напрямком стратегічного розвитку фінансових відносин в Україні. Національна стратегія доходів до 2030 року є фундаментальним документом, що закладає ключові напрямки реформування в сфері митних та податкових відносин. Метою статті був аналіз виконання стратегічних цілей Національної стратегії доходів за секторами «Податкове адміністрування» та «Митне адміністрування» та обґрунтування можливих напрямів коригування таких цілей в умовах воєнного стану. У роботі проаналізовано статистику виконання стратегічних цілей митного та податкового адміністрування в Національній стратегії доходів у 2024–2025 роках. Методом узагальнення узагальнено інформацію щодо цілей податкового та митного адміністрування у 2024–2025 роках. За допомогою метода аналізу проаналізовано стан боротьби з корупцією в податкових та митних органах; місце України в Індексі сприйняття корупції; статистику обміну податковою інформацією; тіньовий ринок алкогольних напоїв та тютюнових виробів; стан контролю за застосування реєстраторів розрахункових операцій та програмних реєстраторів розрахункових операцій платниками податків; стан погашення платниками податків податкового боргу; рівень оплати праці митних та податкових інспекторів в Україні та деяких зарубіжних країнах. Проаналізовано результати опитування щодо довіри до податкових та митних органів; стан масово-роз'яснювальної роботи податкових та митних органів. Узагальнено ключові показники ефективності, за якими буде оцінюватися ефективність діяльності митних органів; стан забезпечення митних органів технічними засобами митного контролю. Виокремлено проблемні аспекти реалізації стратегічних цілей митного й податкового адміністрування в Національній стратегії доходів. Обґрунтовано напрями коригування стратегічних цілей Національної стратегії доходів за секторами податкового та митного адміністрування. Практичне значення одержаних результатів полягає в узагальненні проблемних аспектів реалізації стратегічних цілей Національної стратегії доходів за секторами податкового та митного адміністрування.

Ключові слова: борг; дефіцит бюджету; контрабанда; контролюючі органи; протидія корупції; трансфертне ціноутворення; цифровізація

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61166, пров. Інженерний, 1-А, м. Харків, Україна
E-mail: info@devma.com.ua
<https://devma.com.ua/uk>

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