

UDC 35(477):004.738.5  
DOI: 10.63341/devt/1.2026.08

Vol. 25, No. 1. 2026

## Theoretical foundations of the super-app for a public sector digitalisation: The case of Ukraine

**Nataliia Gavkalova\***

Doctor of Economics, Professor  
Simon Kuznets Kharkiv National University of Economics  
61166, 9A Nauky Ave., Kharkiv, Ukraine  
<https://orcid.org/0000-0003-1208-9607>

**Oleh Kunitsyn**

Postgraduate Student  
Simon Kuznets Kharkiv National University of Economics  
61166, 9A Nauky Ave., Kharkiv, Ukraine  
<https://orcid.org/0009-0008-7552-7946>

**Viktoriiia Melnyk**

PhD in Economics, Associate Professor  
Simon Kuznets Kharkiv National University of Economics  
61166, 9A Nauky Ave., Kharkiv, Ukraine  
<https://orcid.org/0000-0002-8630-7796>

**Viktoriiia Beliavtseva**

Doctor of Economics, Professor  
Simon Kuznets Kharkiv National University of Economics  
61166, 9A Nauky Ave., Kharkiv, Ukraine  
<https://orcid.org/0000-0001-8773-9307>

**Abstract.** The purpose of the research was to substantiate the theoretical foundations of the “super-app” concept and to evaluate its applicability for public sector digitalisation, with a particular focus on Ukraine. Although super-app ecosystems have become a prominent phenomenon in the private sector, the academic literature still lacks a unified definition of a super-app and provides limited analysis of its potential role in public service delivery. To address this gap, the study employs a mixed-methods approach that combines comparative analysis, structural-functional analysis and qualitative assessment of international and national case studies. The research compared mature super-app ecosystems (WeChat, Grab, Gojek and Kakao) with emerging super-app platforms (Uber, Revolut, Glovo and Diia) in order to identify the core criteria that distinguish fully developed super-apps from platforms at earlier stages of ecosystem formation. The results demonstrated that mature super-apps are characterised by deep service integration, embedded digital identity and payment infrastructures, ecosystem openness and sustained user engagement across multiple domains of daily activity. Emerging platforms only partially meet these criteria, revealing structural gaps related to governance models, regulatory environments and ecosystem coordination. Applying this analytical framework to Ukraine, the study examined Diia as a potential public-sector super-app. The findings indicated that Diia exhibits several defining features of a super-app, including centralised digital identification, wide service coverage and large-scale user adoption. The study proposed strategic directions for enhancing Diia’s evolution toward a public-sector super-app model, and also an

Article’s History: Received: 29.09.2025; Revised: 03.02.2026; Accepted: 26.03.2026; Published: 08.04.2026

### Suggested Citation:

Gavkalova, N., Kunitsyn, O., Melnyk, V., & Beliavtseva, V. (2026). Theoretical foundations of the super-app for a public sector digitalisation: The case of Ukraine. *Development Management*, 25(1), 8-22. DOI: 10.63341/devt/1.2026.08.

\*Corresponding author



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

authorial definition of a “super-app for the public sector”, which is expanding theoretical understanding of platform-based digital governance

**Keywords:** digital governance; platform ecosystems; public service integration; digital public infrastructure; e-government innovations

## ● INTRODUCTION

In the context of accelerated digital transformation and rising public expectations, governments worldwide face increasing pressure to provide public services that are as seamless, integrated and user-centric as those offered by the private sector. Digital platforms are gradually replacing fragmented administrative systems, enabling citizens to access services through unified digital interfaces. At the same time, the growing complexity of socio-economic challenges requires governments to adopt more efficient digital governance models capable of integrating multiple services and actors within a single digital environment. Under such conditions, the search for platform-based approaches that simplify interactions between citizens, businesses and public institutions has become increasingly relevant. One of the emerging concepts in this area is the super-app model, which consolidates multiple services into a single digital ecosystem accessible through one interface.

Academic research increasingly examines the super-app phenomenon from different perspectives. A. Balogh & J. Varga (2024) analysed the role of super-apps in enhancing customer experience and innovation management, concluding that these platforms represent a new type of digital ecosystem where multiple services are integrated within a unified technological environment. The authors emphasised that despite the rapid diffusion of super-apps in practice, the concept still lacks a precise academic definition and therefore requires further theoretical clarification. L. Ochoa (2025) explored the development of super-app ecosystems from an economic perspective and highlighted the importance of integrating diverse services such as payments, transportation, communication and digital commerce within a single platform. According to the author, the success of super-apps lies in their ability to reduce user friction by eliminating the need to switch between different applications for everyday tasks. Studies in information systems emphasised the broader role of digital platforms in strengthening institutional and economic resilience.

R. Floetgen *et al.* (2021) introduced the concept of platform ecosystem resilience and demonstrated that digital platforms can support adaptive responses to large-scale disruptions by coordinating services and actors within integrated ecosystems. W. Boh *et al.* (2023) examined how digital infrastructures contribute to building resilience during major shocks, highlighting the importance of flexible digital architectures and cross-sector collaboration. Y. Tim *et al.* (2023) further showed that crisis-driven information systems enable organisations to maintain service continuity during disruptive events through integrated digital solutions. The role of digital services has also been examined in the context of public administration. V. Levesque *et al.* (2024) analysed the contribution of municipal digital services to community resilience and concluded that digital service platforms can improve the ability of local governments to respond to socio-economic

challenges and deliver accessible public services. H. Li & G. Kostka (2022) investigated digital participation within government-operated digital platforms and demonstrated that the effectiveness of such systems largely depends on institutional design and citizen engagement mechanisms embedded in platform architecture. S. An *et al.* (2024) investigated the role of digital solutions in enhancing user engagement in public and semi-public service systems and demonstrated that platform-based approaches, including gamification mechanisms, can significantly improve user acceptance and interaction with digital services. The authors concluded that the effectiveness of digital service platforms depends not only on technological integration but also on user-centered design features that facilitate accessibility and sustained engagement.

Ukrainian researchers have also begun to analyse these processes within the context of national digital transformation. N. Gavkalova & O. Kunitsyn (2025) examined the development of digital platforms in the public sector and emphasised that Ukraine’s rapid digital transformation has created new opportunities for integrating public services within unified digital systems. The authors noted that the concept of a super-app remains insufficiently explored in relation to public administration, particularly regarding how platform-based ecosystems can be adapted to government service delivery. Another contribution to understanding Ukraine’s digital transformation was made by V. Vyhovska *et al.* (2025), who analysed the evolution of digital government reforms in Ukraine and demonstrated that the Diia platform significantly accelerated the digitalisation of administrative services.

Despite the growing number of studies devoted to digital platforms and super-apps, several important aspects remain insufficiently explored. Existing research primarily focuses on private-sector super-app ecosystems, particularly those developed in Asian markets, while the potential application of the super-app model in public governance remains largely understudied. Furthermore, the literature lacks a unified conceptual framework that distinguishes mature super-app ecosystems from emerging multi-service platforms. These limitations highlight the need for further research aimed at clarifying the theoretical foundations of the super-app concept and assessing its applicability to public sector digitalisation. The aim of this study was to substantiate the theoretical foundations of the super-app concept and evaluate its applicability to public sector digitalisation, with particular attention to the case of Ukraine. To achieve this aim, the study develops a conceptual definition of a super-app that incorporates public sector characteristics, distinguishes between mature super-app ecosystems and emerging multi-service platforms by identifying key criteria of maturity, and evaluates the extent to which the Ukrainian digital platform Diia corresponds to these criteria as a potential “super-app for the public sector”.

## ● MATERIALS AND METHODS

The research adopted a qualitative, theory-driven research design aimed at conceptualising the notion of super-apps and assessing their applicability to the digitalisation of public services, with a particular focus on Ukraine's digital platform Diia. Given the interdisciplinary nature of the super-app phenomenon, which situated at the intersection of digital platform theory, ecosystem economics, financial technologies and public administration, this research employs a comparative analytical methodology combined with systematic literature synthesis and case-based evaluation. This approach enabled the identification of structural characteristics that distinguished super-apps from conventional digital platforms and supports the development of an analytically grounded typology applicable to both private and public sectors.

The methodological framework of the research based on a comparative multiple-case study design, which is widely applied in platform and innovation studies to explore emerging digital phenomena characterised by heterogeneity and rapid evolution (Yazan & Vasconcelos, 2015). This approach allows for structured comparison across diverse platform configurations and supports theory building in contexts where unified definitions and measurement standards are still under development. This approach integrated two complementary methods. The first method is a qualitative comparative analysis which was applied to selected digital platforms using analytically derived criteria that reflect core dimensions of super-app functionality. The second method is an analytical synthesis which was used to translate comparative findings into structured recommendations for public-sector application, specifically in the Ukrainian context.

A key methodological contribution of this study was the introduction of a two-tier typology of super-apps, distinguishing between "Mature Super-App Ecosystems" and "Emerging Super-App Platforms". This classification responds to the lack of a unified academic definition of super-apps and reflects observed differences in platform maturity, ecosystem structure and also a functional integration identified in literature. "Mature Super-App Ecosystems" are defined as digital platforms that demonstrate a high degree of multi-service integration across sectors, including communication, payments, mobility, commerce and additional everyday services, supported by a unified identity and payment infrastructure. These platforms typically operate as ecosystem orchestrators, enabling third-party services through mini-app architectures or open APIs and exhibit strong user lock-in driven by network effects and service bundling. Studies of M. Hasselwander (2024) and L. Ochoa (2025) emphasised that such ecosystems function as quasi-operating systems for daily digital life, rather than as mere aggregators of services. By contrast, "Emerging Super-App Platforms" are characterised by partial fulfilment of super-app criteria. While these platforms integrate multiple services and may include embedded financial or identity components, they lack the full ecosystem openness, platform architecture or cross-sector depth observed in mature super-apps. This category reflects the evolutionary nature of super-app development, aligning with research of M. Hasselwander & D. Weiss (2025) that conceptualises platform maturity as

a dynamic process rather than a binary state. The distinction between mature and emerging platforms provides an analytical lens for identifying structural gaps and development trajectories.

The selection of platforms for comparative analysis was guided by three criteria: theoretical relevance to the super-app concept, empirical evidence of multi-service integration and availability of reliable academic and policy documentation. Based on these criteria, four platforms were classified as "Mature Super-App Ecosystems": WeChat, Grab, Gojek and Kakao. These platforms are consistently cited in academic and industry literature as paradigmatic examples of super-apps and represent diverse regional contexts, primarily in East and Southeast Asia, where market conditions and digital adoption patterns have historically favoured ecosystem consolidation (Hasselwander, 2024). WeChat is widely recognised as the archetypal super-app, integrating messaging, payments, commerce and a vast ecosystem of mini-programs within a single interface. Grab and Gojek exemplify the transformation of mobility platforms into multi-service ecosystems encompassing financial services, logistics and on-demand offerings. Kakao represents a similar trajectory within the South Korean digital ecosystem, combining communication, payments and content services. These cases collectively illustrate the structural features associated with super-app maturity, including ecosystem governance, financial integration and platform extensibility.

The group of "Emerging Super-App Platforms" includes Uber, Revolut, Glovo and Diia. These platforms were selected to capture different sectoral pathways toward super-app development. Uber represents a mobility-centred expansion strategy, Revolut reflects a finance-led integration model and Glovo illustrates service aggregation within logistics and delivery markets. Diia, as Ukraine's national digital public services platform, represents a unique public-sector case, enabling the examination of whether super-app logic can be effectively applied beyond commercial ecosystems. The inclusion of Diia is theoretically justified by scientific literature on digital public infrastructure and platform governance, which suggests that public digital platforms increasingly adopt features traditionally associated with private digital ecosystems, such as centralised identity, service bundling and API-based integration (Vyhovska *et al.*, 2025). At the same time, Diia's public mandate and regulatory context differentiate it from private super-apps, making it a critical case for exploring the boundaries of the super-app concept.

The comparative analysis was conducted using a set of criteria derived from the literature on super-apps and digital platform ecosystems. The criteria were selected through a structured review of academic and industry publications on super-app architectures and multi-service digital platforms. At the first stage, the key characteristics of super-app ecosystems most frequently discussed in the literature were identified, including service integration, embedded financial infrastructure, platform modularity, ecosystem partnerships and value creation mechanisms. At the second stage, these characteristics were systematised and grouped into analytical dimensions that allow for cross-platform comparison. As a result of this synthesis, six criteria were selected for the comparative framework:

the presence of integrated payment systems, platform or mini-app architecture, ecosystem openness, service bundling logic, economic value generation mechanisms and the degree of private-sector integration. These criteria were chosen because they reflect the core structural features that distinguish super-app ecosystems from conventional digital platforms and are consistently emphasised in platform research. Other potential characteristics discussed in the literature, such as user interface design or marketing strategies, were not included in the analytical framework because they are more context-dependent and less relevant for assessing the structural maturity of platform ecosystems. Each platform was assessed qualitatively against the selected criteria based on documented functionalities, institutional arrangements and strategic orientation. This analytical procedure follows methodological precedents in platform research that emphasise qualita-

tive, criteria-based comparison as a means of identifying structural patterns and development gaps.

## ● RESULTS

### Mature super-app ecosystems: A comparative analysis

The comparative analysis of mature super-app ecosystems constitutes the empirical foundation for identifying the structural characteristics that distinguish super-apps from conventional multi-service digital platforms. Table 1 is representing an analysis of four internationally recognised mature super-app ecosystems, using a set of analytically derived criteria reflecting platform architecture, service integration, ecosystem governance and economic functionality. The purpose of this comparison is not to rank platforms, but to extract common structural features that collectively define super-app maturity and serve as a benchmark for evaluating emerging platforms in subsequent analysis.

**Table 1.** Criteria of mature super-app ecosystems

Criterion	WeChat (China)	Grab (Southeast Asia)	Gojek (Indonesia)	Kakao (South Korea)
<b>Centralised digital identity</b>	WeChat operates a unified account that ties social features (e.g., chat) to services like payments, mini-programs, commerce and public services via one login infrastructure. This identity persists across transactions and embedded mini-services.	Grab uses a single login that lets users access ride-hailing, food delivery, payment wallet (GrabPay) and other services from one account across multiple Southeast Asian markets.	Gojek provides one account for ride-hailing, logistics, payments (GoPay) and additional services, creating continuity across its ecosystem.	KakaoTalk's single user account spans messaging, payments (KakaoPay), mobility services (Kakao T) and entertainment, enabling integrated user access across services.
<b>Integrated payment system</b>	WeChat Pay is built into the app and supports peer-to-peer money transfer, QR payments in physical stores, in-app purchases and broad digital commerce.	GrabPay started as an in-app payment wallet and expanded to merchant payments, financial tools, micro-insurance and lending functions within the app ecosystem.	Gojek's GoPay wallet is integrated within the app, enabling payments for rides, deliveries, logistics and partner merchant services, creating a self-contained transactional layer.	Kakao integrates KakaoPay within its platform, enabling users to make digital payments, transfer funds and settle transactions across multiple Kakao services.
<b>Multi-sector service integration</b>	WeChat supports messaging, social networking, payments, commerce, travel booking, utility bill payments, government mini-services and mini-program integrations without leaving the app.	Grab combines transportation, food and grocery delivery, payments, hotel bookings and financial services, reflecting broad horizontal expansion across everyday user needs.	Gojek offers ride-hailing, food delivery (GoFood), logistics and payments, expanding into fintech and lifestyle services through partnerships and integrations.	Kakao provides messaging, mobile payments, ride-hailing via Kakao T, entertainment content and commerce services within its interconnected platform.
<b>Platform architecture (mini-apps, APIs)</b>	WeChat's mini-programs are internal ecosystems of lightweight apps that offer a wide range of services: from e-commerce to service booking, allowing third parties to build within the platform.	Grab's modular ecosystem (transport, delivery, payment, financial) enables expansion of partner services and internal modules under one interface.	Gojek's ecosystem provides modular access to varied services (GoRide, GoSend, GoShop) that operate within a unified app.	Kakao's ecosystem uses integrated service modules (e.g., KakaoPay, Kakao T) that operate within the Kakao platform across services.
<b>Ecosystem openness</b>	WeChat's mini-program ecosystem allows developers and merchants to deploy services inside the app interface, increasing third-party participation.	Grab collaborates with external brands and services, incorporating partner offerings like Agoda, third-party merchants and financial partners into its ecosystem.	Gojek works with local partners (e.g., payment partners, logistics providers) to broaden service offerings, supporting SME inclusion.	Kakao's API and developer interfaces enable some external integrations (e.g., KakaoPay integration with partner services) that expand the ecosystem.

Table 1, Continued

Criterion	WeChat (China)	Grab (Southeast Asia)	Gojek (Indonesia)	Kakao (South Korea)
<b>Institutional embeddedness</b>	WeChat's broad adoption in China includes integrations with government services (e.g., civic functionalities in mini-programs) and deep market penetration, making it embedded in social and economic routines.	Grab's super-app strategy involves partnerships across regulated domains (banking partners, insurers) and compliance with regional regulatory environments (e.g., finance, transport, data).	Gojek aligns with local regulatory standards and works with financial and logistic partners, embedding itself in Indonesia's digital economy.	Kakao's dominance in the Republic of Korea and collaborations with financial service providers (KakaoPay) position it within regulated digital infrastructures.
<b>Economic value exchange</b>	WeChat drives commerce and payments at massive scale, enabling merchants and consumers to trade, book services and transact inside one ecosystem.	Grab's ecosystem generates value through transport, delivery fees, wallet transactions, merchant services insurance products and financial offerings.	Gojek's integration of services and payments creates economic flows across mobility, logistics and merchant platforms.	Kakao's economy spans payments, entertainment, mobility and digital services, creating transaction ecosystems across sectors.

**Source:** based on U. Florene (2020), J. Osio (2020), The rise of the super app (2022), Find more about WeChat... (2024), A. Mustapha (2024), P. Sanchez (2025), S. Jesse (2026), Creating the superapp (n.d.)

A defining characteristic observed across all mature super-app ecosystems is the presence of a deeply integrated payment infrastructure embedded within the core platform architecture. In all examined cases, digital payments are not treated as an auxiliary service but function as a foundational layer enabling transactions across multiple service domains. WeChat Pay, GrabPay, GoPay and KakaoPay operate as interoperable financial instruments tightly coupled with identity systems, service access and third-party integrations. The comparative findings confirm that without an integrated payment layer, platforms struggle to achieve the functional density required for super-app status. Closely related to financial integration is the existence of a platform-based architecture, typically manifested through mini-app or modular service frameworks. All mature super-apps analysed operate as extensible platforms rather than closed applications. WeChat's mini-program ecosystem represents the most advanced example, allowing third-party developers to deploy services that operate natively within the super-app environment. Grab and Gojek similarly provide modular integration frameworks that enable partners to offer services ranging from food delivery to financial products. Kakao's platform architecture integrates communication, content and transactional services within a unified ecosystem. Academic literature consistently identifies platform extensibility as a critical differentiator between super-apps and multi-service aggregators, as it enables continuous ecosystem expansion without proportional increases in platform complexity (Lucas & Lopes, 2024). The comparative analysis confirms that mature super-apps function as service orchestration platforms, not merely as collections of internally developed features.

Another core dimension of maturity evident in Table 1 is the openness of the service ecosystem, albeit within controlled governance frameworks. While none of the examined platforms operate as fully open systems, all demonstrate selective openness through APIs, certification mechanisms and partnership models that allow external actors to contribute services while maintaining platform control. The ability to incorporate third-party services

while enforcing technical, security and regulatory standards enables mature super-apps to scale rapidly without compromising platform integrity. The comparative evidence suggests that ecosystem openness is not binary but operates along a spectrum, with mature super-apps occupying a strategically managed middle ground. Service bundling logic emerges as another defining criterion differentiating mature super-apps from less developed platforms. In all analysed cases, services are organised around user life-contexts and everyday needs, rather than institutional or sectoral boundaries. For example, Grab and Gojek integrate mobility, food delivery, payments and financial services in ways that reflect daily consumption patterns, while WeChat embeds communication, commerce and public services into a continuous user journey.

Economic value generation mechanisms further distinguish mature super-app ecosystems from emerging platforms. All platforms examined generate value not only through direct monetisation, such as transaction fees or financial services, but also through indirect mechanisms including data-driven service optimisation, ecosystem participation fees and cross-subsidisation strategies. Studies on super-app economics emphasise that such platforms operate as multi-sided markets, where value creation extends beyond individual transactions to encompass ecosystem-wide efficiencies and innovation incentives (Garcia *et al.*, 2025). The comparative analysis confirms that economic sustainability in mature super-apps is closely tied to their ability to internalise multiple value streams across sectors, reinforcing their central role in digital economies. Another salient criterion evident across all mature super-apps is the integration of identity and trust mechanisms within the platform infrastructure. Digital identity systems, whether explicit or implicit, underpin user authentication, financial transactions and access to services. WeChat's identity framework, Grab's verified user profiles and Kakao's authentication systems collectively illustrate how trust is operationalised at scale within super-app ecosystems. This finding aligns with researches highlighting trust infrastructure as a prerequisite for platform expansion, particularly when financial and quasi-public services

are involved (Hasselwander & Weiss, 2025). The comparative evidence indicates that identity integration is not merely a technical feature but a governance mechanism that enables ecosystem stability and user confidence.

The role of cross-sector integration further differentiates mature super-apps from platforms that remain sector-bound. All examined platforms extend across traditional sectoral boundaries, combining elements of mobility, finance, commerce, communication and in some cases public services. This cross-sector integration reflects a strategic shift from vertical specialisation to horizontal ecosystem control, a trend widely documented in digital platform research (Hasselwander, 2024). The comparative analysis demonstrates that super-app maturity is associated with the ability to operate at the intersection of multiple sectors, thereby embedding the platform into diverse aspects of users' daily lives. Importantly, while these platforms share common structural characteristics, the comparative analysis also reveals contextual variation in how super-app ecosystems evolve. Regional regulatory environments, market conditions and cultural factors shape platform strategies and service configurations. For instance, the prominence of financial inclusion goals in Southeast Asian super-apps reflects regional banking gaps, while communication-centred integration in East Asian platforms reflects different user behaviours and institutional contexts. These variations underscore that super-app maturity does not imply uniformity, but rather convergence around a set of functional and structural principles adapted to local conditions (Ochoa, 2025).

Synthesising the comparative findings from Table 1, the analysis identifies a constellation of interdependent criteria that collectively define mature super-app ecosystems: integrated payment infrastructure, platform-based architecture, controlled ecosystem openness, user-centric

service bundling, multi-channel economic value generation, embedded trust mechanisms and cross-sector integration. Crucially, none of these criteria alone is sufficient to confer super-app status. Instead, maturity emerges from the systemic interaction of these elements within a coherent platform governance framework (Jain & Jain, 2025). The comparative analysis thus provides an empirically grounded basis for distinguishing mature super-app ecosystems from emerging platforms and establishes a reference framework for assessing the developmental gaps of platforms aspiring to super-app status. In the context of this research, the results of this comparative analysis serve two key functions. First, they operationalise the concept of super-app maturity in analytically measurable terms, addressing the conceptual ambiguity identified in the literature. Second, they provide a benchmark against which emerging platforms, including public-sector platforms such as Diia, can be systematically evaluated. By identifying the structural features that enable mature super-apps to function as integrated digital ecosystems, this analysis lays the groundwork for subsequent examination of emerging platforms and the formulation of evidence-based recommendations for public-sector super-app development.

#### Emerging super-app platforms: A comparative analysis

The comparative analysis of emerging super-app platforms examines the structural and functional characteristics of selected digital platforms that exhibit partial fulfilment of the criteria identified for mature super-app ecosystems (Table 2). By applying these same criteria to emerging selected platforms, which are Uber, Revolut, Glovo and the Ukrainian Diia, this subsection identifies developmental gaps and contextual configurations that differentiate emerging platforms from mature super-app ecosystems and highlights potential pathways for platform evolution.

**Table 2.** Applying criteria of mature super-apps ecosystems to emerging super-app platforms

Criterion	Uber (USA)	Revolut (UK)	Glovo (Spain)	Diia (Ukraine)
<b>Centralised digital identity</b>	Uber provides a single user account that enables access to ride-hailing, food delivery (Uber Eats) and logistics services, but the identity remains service-centric rather than ecosystem-wide.	Revolut operates a centralised digital identity tightly linked to regulatory compliance, enabling access to banking, payments, investments and crypto services within one account.	Glovo uses a single user profile for food delivery, courier services and grocery purchases, though identity is limited to transactional usage.	Diia provides a state-verified digital identity linked to national registries, enabling secure access to multiple public services through a single government-issued account.
<b>Integrated payment system</b>	Uber integrates payments primarily for in-app transactions related to rides and deliveries, without offering an open financial ecosystem or wallet-based expansion.	Revolut offers a fully integrated digital banking infrastructure including payments, cards, transfers and financial instruments, positioning it as a financial super-app.	Glovo supports in-app payments for services but relies on external payment providers and lacks native financial services.	Diia currently does not provide native payment infrastructure; financial transactions remain external (banks, third-party payment systems).
<b>Multi-sector service integration</b>	Uber has expanded from mobility into food delivery and logistics, but remains concentrated within urban services and lacks broader lifestyle or public integration.	Revolut integrates multiple financial sectors (banking, investments, insurance, crypto) but remains largely confined to the financial domain.	Glovo integrates food delivery, groceries and courier services, focusing on urban consumption rather than cross-sector ecosystems.	Diia integrates administrative services, digital documents, social services and selected business services, covering multiple public-sector domains.

Table 2, Continued

Criterion	Uber (USA)	Revolut (UK)	Glovo (Spain)	Diia (Ukraine)
<b>Platform architecture (mini-apps, APIs)</b>	Uber provides APIs mainly for developers and partners but does not host third-party mini-apps within its interface.	Revolut offers APIs for fintech integrations but maintains a closed ecosystem centred on internal financial services.	Glovo's architecture is service-modular, but does not support third-party mini-applications within the app environment.	Diia is developing interoperability layers (e.g., Trembita) but does not yet support third-party service deployment within the app interface.
<b>Ecosystem openness</b>	Uber partners with restaurants, drivers and logistics providers, yet ecosystem participation is tightly controlled and platform-centric.	Revolut partners with external financial service providers, but access is limited by regulatory and compliance requirements.	Glovo collaborates with merchants and retailers, but integration is transactional rather than ecosystem-driven.	Diia operates as a closed state platform with limited openness to private-sector service integration beyond pilot initiatives.
<b>Institutional embeddedness</b>	Uber operates within regulated transport and labor frameworks but often faces regulatory challenges across jurisdictions.	Revolut is deeply embedded in EU financial regulation, operating under banking licenses and compliance regimes.	Glovo complies with labor, consumer protection and competition regulations but has limited institutional integration beyond commerce.	Diia is fully embedded in Ukraine's public administration system and legally recognised as a national digital governance platform.
<b>Economic value exchange</b>	Uber enables economic exchange primarily through mobility and delivery markets, monetising commissions and service fees.	Revolut facilitates extensive financial value exchange, including payments, investments and asset management.	Glovo generates value through service commissions and merchant partnerships in urban delivery markets.	Diia does not yet generate direct economic value but enables indirect economic effects by reducing transaction costs and administrative barriers.

**Source:** based on Resolution of Cabinet of Ministers of Ukraine No. 606 “Regulation on Electronic Interaction of Electronic Information Resources” (2016), European Commission (2022), Uber Technologies Inc (n.d.), Revolut Ltd (n.d.), How Glovo works... (n.d.), Ministry of Digital Transformation of Ukraine (n.d.)

A central observation from Table 2 is that while emerging platforms share certain features with mature super-apps, none fully embodies the systemic configuration of a mature super-app ecosystem. Most prominently, integrated payment infrastructure, which is considered as a foundational element of super-app maturity, is present only in its rudimentary forms or in a sector-specific context. In the case of Uber, for example, payment integration is limited to in-app transactions for ride-hailing, delivery and associated services, without the broader wallet-based ecosystem observed in mature super-apps. Although, Uber has introduced in-app wallets and supports multiple payment methods, it does not yet possess a comprehensive digital financial infrastructure that permeates cross-service interactions and third-party transactions. Similarly, the emerging fintech platform Revolut demonstrates a robust integrated payment and financial management framework, offering services such as digital banking, peer-to-peer transfers, savings, investments and cryptocurrency functionality. Revolut's financial breadth is notable and surpasses that of many mature super-apps in the financial domain alone. However, Revolut's integration remains largely confined to financial services and does not extend deeply into non-financial everyday services such as mobility, commerce, or communication. This sectoral limitation reflects a common pattern in the evolution of digital platforms, wherein platforms achieving depth in one functional domain, in this case it's finance, may lack horizontal integration across diverse daily life needs.

In the case of Glovo, which originated as a delivery and logistics platform, the integrated payment functionality is primarily transactional and confined to the pur-

chase and delivery workflow. Glovo enables users to pay for delivered goods within its app, but its payment system does not serve as a broader economy-wide tool that underpins a multi-service digital ecosystem. Unlike the embedded financial instruments of mature super-apps, which act as engines for economic exchange across sectors, Glovo's payment system is a domain-specific facilitator of delivery transactions (Hasselwander, 2024). This example illustrates how emerging private-sector platforms often retain a narrow functional focus despite expanding their service portfolios. In contrast to such market-driven platforms, the Ukrainian public digital platform Diia represents a different trajectory of platform development. Diia offers a unique configuration within the emerging super-app category, as its structural development is rooted in public administration and e-governance rather than in market-driven competition. Diia integrates digital identity, administrative services and access to public records within a single citizen portal, providing an institutionalised platform for state-citizen interaction. Its identity layer, supported by platforms such as BankID, offers secure authentication and critical service access, aligning with the trust mechanisms observed in mature super-app ecosystems. However, Diia currently lacks integrated financial infrastructure and a comprehensive mini-app ecosystem, positioning it as an emerging platform with distinct characteristics reflective of its public mandate.

The application of platform architecture criteria to emerging super-apps reinforces these observations. None of the platforms analysed hosts a broad suite of third-party mini-apps or supports an internal ecosystem where external developers can deploy services as independent

components of a unified interface. Uber's APIs facilitate limited partner integrations, mostly focused on transportation and delivery partners, but do not support a unified mini-app ecosystem within the core platform interface. Revolut's APIs primarily serve financial integrations and Glovo's modular service structure lacks an internal marketplace for third-party developers to contribute new service categories. Diia's architecture, although forward-looking in terms of interoperability frameworks (e.g., Trembita), currently functions as a centralised administrative portal rather than as an open platform accommodating third-party services. This pattern aligns with scientific literature demonstrating that platform architecture capable of supporting mini-apps or third-party modules is a critical determinant of ecosystem extensibility and, ultimately, super-app maturity (Hasselwander, 2024).

The criterion of ecosystem openness further reveals developmental distinctions. Mature super-apps selectively balance openness and control by establishing governance frameworks, certification processes and technical standards for ecosystem participation. In contrast, Uber's and Glovo's openness frameworks are predominantly transactional and partner-centric, reflecting a narrower integration logic. Revolut's openness is bounded within financial networks and fintech integrations, constrained by regulatory requirements and risk management imperatives. Diia's openness is shaped by public governance considerations, where access for private sector services must comply with legal standards, data protection norms and state oversight. These contextual configurations illustrate that ecosystem openness is not a singular structural property but rather a governance construct that varies significantly across platform types and institutional environments.

A salient finding across emerging super-apps concerns service integration and bundling logic. Mature super-apps integrate diverse services in a manner that reflects holistic daily life journeys, reducing friction and enhancing user retention. In contrast, emerging platforms exhibit partial or additive integration, where the range of services – albeit expanding – remains anchored to the platform's core domain. For instance, Uber's service portfolio extends from ride-hailing to food and parcel delivery, but the service transitions remain within the broader mobility and logistics domain, without extending into areas such as finance, communication, or civic services. Revolut's integration spans financial services but lacks adjacent service domains outside finance. Glovo's integration is rooted in delivery, while Diia's integration includes administrative and social services but has not yet expanded into economic transaction and lifestyle domains. This pattern suggests that horizontal integration, spanning distinct sectors aligned with daily life needs, is a hallmark of mature super-apps and its absence in emerging platforms underscores the partial nature of their super-app development.

On the dimension of economic value exchange, emerging platforms present varied trajectories. Uber generates value primarily through service fees, ride commissions and delivery charges, reflecting a transactional economy confined to the platform's primary service offerings. Revolut's economic model includes financial services revenue, interchange fees and subscription services, drawing closer to the multi-sided market logic of

super-apps, yet still constrained by the absence of broad non-financial services. Glovo primarily generates revenue through delivery commissions and marketplace fees and Diia, as a public digital platform, does not directly monetise transactions but facilitates economic and administrative efficiencies. These configurations illustrate that economic value generation in emerging platforms often remains domain-specific, rather than ecosystem-wide, a distinction recognised in digital ecosystem studies that highlight multi-service economic capture as a defining feature of mature super-apps (Hasselwander, 2024; Garcia *et al.*, 2025).

The comparative analysis also reflects institutional embeddedness and regulatory configurations as significant differentiators between emerging and mature super-app ecosystems. While Uber, Revolut and Glovo operate in competitive, market-driven environments subject to heterogeneous regulatory regimes, they lack the deep institutional integration observed in mature super-apps, which often operate across public and private domains with implicit or explicit state sanction. Diia's institutional embeddedness is distinct in that it represents a state-mandated digital platform linked to national governance structures. Although this embeddedness affords high legitimacy and broad citizen reach, it does not automatically confer super-app maturity due to the absence of core structural features associated with ecosystem extensibility, payment integration and economic value exchange. These findings align with public administration publications emphasising the role of institutional context in shaping platform development trajectories (OECD, 2022).

Despite the heterogeneity of emerging platforms, common patterns are evident. First, partial functional integration characterises emerging super-app platforms, wherein service expansion occurs within adjacent domains rather than across diverse sectors. Second, payment infrastructure varies in depth and integration logic, from domain-specific transactional systems to fully integrated financial instruments, but rarely extends to platform-wide economic ecosystems. Third, platform openness and modular architecture remain nascent or constrained by external regulatory and governance conditions. Finally, institutional roles and mandates significantly influence platform configuration, particularly in the public sector context represented by Diia. The comparative analysis of emerging super-app platforms reveals that while these platforms exhibit promising features indicative of evolutionary trajectories toward super-app maturity, they lack the systemic integration observed in mature ecosystems. The partial fulfilment of core criteria underscores the developmental gaps that emerging platforms must address if they are to evolve into fully integrated super-apps. These insights provide the empirical basis for the strategic recommendations developed in the subsequent section of the paper, which outlines targeted pathways for platform evolution, with particular emphasis on the public-sector potential of Diia.

### **Diia as a potential super-app for a public sector**

The emergence of Diia represents a distinctive case in the global evolution of digital platforms, particularly when assessed through the lens of super-app development in the public sector. Unlike market-driven super-apps that evolve

through competitive expansion and ecosystem capture, Diia has been designed as a state-led digital public infrastructure with explicit governance, legal and public value objectives. This difference necessitates a separate analytical framing for evaluating Diia's potential trajectory as

a public-sector super-app rather than assessing it solely against private-sector benchmarks. Based on the results of previous comparative analysis there were formulated strategic recommendation for advancing Diia to be a public sector super-app (Table 3).

**Table 3.** Strategic recommendations for advancing Diia toward a super-app for a public sector

Identified gap	Strategic recommendation	Implementation logic	Expected impact
<b>Absence of integrated payment infrastructure</b>	To introduce interoperable payment functionality through partnerships with Ukrainian commercial banks and fintech providers (e.g., PrivatBank, monobank, Oschadbank).	To integrate payment modules using BankID authentication and open banking APIs regulated by the National Bank of Ukraine; enable in-app payments for the wider range of administrative fees, fines and municipal services.	Closing the identified gap should enable fully transactional public services, while maintaining financial-sector neutrality and regulatory compliance.
<b>Lack of platform (mini-app) architecture</b>	To develop a modular platform architecture allowing third-party service modules from certified public and private providers.	To establish a Diia developer platform (SDK), enabling government agencies, municipalities and approved private developers to deploy mini-applications such as local public services, digital permits, or regional administrative tools.	The results should be a transformation of Diia from a service aggregator into a scalable digital platform ecosystem.
<b>Limited ecosystem openness</b>	Introduce controlled API access for selected private service providers including telecommunication operators (Kyivstar, Vodafone Ukraine, Lifecell), insurance companies (f.e. UNIQA), and logistics providers (f.e. Nova Poshta).	To create certification procedures for API access allowing telecom operators, insurance providers, mobility services and municipal utilities to integrate selected services.	The results should expand service availability, while ensuring compliance with national data protection and cybersecurity standards.
<b>No marketplace or service bundling logic</b>	To introduce integrated service packages that combine multiple public and private services around specific citizen needs (f.e. starting a business, purchasing property, or childbirth registration).	To develop digital service scenarios where Diia automatically links related services. For example, a "Start a Business" package could combine company registration (government service), business bank account opening (PrivatBank or Monobank), tax registration and accounting software access.	The impact should be a reduction of administrative fragmentation and improves citizen-centred service delivery.
<b>Weak economic value generation mechanisms</b>	To position Diia as national digital infrastructure supporting entrepreneurship and business services, with cooperation with organizations such as Diia.Business, the IT Ukraine Association, and SME-focused banks like f.e. Ukrsibbank.	To add business-oriented tools within Diia including SME support services, allowing entrepreneurs to manage key administrative procedures within one platform (f.e. digital signature already exist).	The expected impact is enhancing economic activity reduces administrative costs and supports SME participation.
<b>Limited private-sector integration</b>	To establish formal public-private partnership frameworks to integrate private digital services from sectors such as banking, telecommunications, and mobility platforms (f.e., Uber, Uklon, Kyivstar, Bolt).	To introduce public-private digital service agreements, where approved companies integrate selected services through secure APIs under government supervision.	Sustainable ecosystem growth and strengthens cooperation between government and the digital economy should be the results of this implementation.

**Source:** created by the authors

In this context, Diia exhibits several structural features commonly associated with emerging super-app platforms, including service aggregation, single sign-on functionality, mobile-first design and high-frequency user engagement. However, its development path also reflects constraints and opportunities unique to the public sector, including legal accountability, data sovereignty and non-market incentives. One of the defining characteristics of mature super-app ecosystems is the extensive horizontal integration of services across unrelated domains.

From a digital government perspective, the level of Diia's functionality of integration aligns with the concept of "whole-of-government platforms", where user-centric design replaces institutional fragmentation (OECD, n.d). However, unlike private super-apps that continuously expand into lifestyle, commerce and financial services, Diia's service breadth remains bounded by public mandates, and it also creates a stable and trusted service environment. Research on public digital platforms suggests that trust and legal legitimacy can compensate for slower feature

expansion, particularly in contexts where service reliability and data protection are prioritised over commercial experimentation.

A key gap identified in Table 3 concerns ecosystem openness and third-party integration. Super-app literature increasingly highlights the importance of modular architecture and developer ecosystems in sustaining platform growth (Reuver *et al.*, 2018). Diia has taken initial steps toward this model through the development of application programming interfaces (APIs) and the Diia.Business and Diia.City initiatives, which signal a shift from a closed government application to a broader platform infrastructure. Nonetheless, the integration of private-sector services into Diia remains selective and heavily regulated. This reflects a broader tension in public platform governance between openness and control. Studies on government-as-a-platform models caution that excessive openness can undermine accountability and service equity, while excessive control can limit innovation. Diia's current architecture positions it as a controlled platform intermediary rather than a fully open super-app ecosystem, which is consistent with early-stage public platform development.

Financial services integration is widely recognised as a cornerstone of super-app maturity. In private ecosystems, embedded payments enable seamless transactions and data-driven service personalisation. In Diia's case, financial integration occurs indirectly through interoperability with banking infrastructure rather than through native wallet functionality. This approach reflects a public-value orientation that prioritises neutrality and competition over platform lock-in. Public administration literature suggests that governments integrating financial services into digital platforms must balance efficiency gains with risks related to market distortion and institutional overreach (European Commission, 2023). Diia's reliance on external banking systems can therefore be interpreted not as a deficiency, but as a deliberate governance choice that preserves financial sector plurality while enabling digital service delivery. This hybrid model differentiates Diia from private super-apps and supports its classification as a potential rather than mature super-app.

Another criterion distinguishing mature super-apps is high-frequency daily usage driven by consumer services such as messaging, payments and mobility. Diia's engagement patterns are more episodic, reflecting the nature of public services. However, wartime conditions and emergency-related functionalities have significantly increased usage frequency, demonstrating that contextual factors can temporarily substitute for commercial engagement drivers. Research on civic technology adoption indicates that repeated exposure to reliable digital public services can generate behavioural lock-in comparable to commercial platforms, particularly when digital identity becomes embedded in everyday interactions (OECD, n.d.). Diia's role as the primary digital identity interface in Ukraine positions it uniquely to achieve long-term user retention, even without entertainment or lifestyle services. Perhaps the most distinctive aspect of Diia's potential super-app trajectory lies in its governance model. Unlike private platforms governed by corporate strategy and shareholder value, Diia is embedded within Ukraine's administrative and legal framework. This institutional embeddedness

provides stability and nationwide scalability but limits rapid experimentation. Diia's governance structure aligns with this model, suggesting that its evolution toward a public-sector super-app must be evaluated using criteria adapted to public value creation rather than purely commercial success metrics.

Taken together, the analysis indicates that Diia does not fully meet the criteria of a mature super-app as it is defined for a private sector. However, it demonstrates a coherent configuration of features that justify its classification as a potential public-sector super-app. Its strengths lie in legal legitimacy, identity integration and nationwide adoption, while its limitations reflect deliberate governance choices rather than technological shortcomings. Importantly, Diia represents a prototype of a new category of super-app: one driven by public value, institutional trust and digital sovereignty. This model challenges existing super-app definitions rooted in commercial ecosystems and suggests the need for an expanded theoretical framework that accounts for state-led platform development. The findings of this study contribute to ongoing academic debates on digital platforms, e-governance and super-app ecosystems by demonstrating that existing definitions of super-apps, which is largely derived from private, market-driven platforms, are insufficient for capturing public-sector digital realities. Based on the comparative analysis of mature and emerging super-app ecosystems and the in-depth examination of Diia, the research proposes an authorial definition of a public-sector super-app that reflects institutional, legal and public value dimensions absent from dominant commercial frameworks.

A super-app for a public sector is defined as a state-led, platform-based digital ecosystem that integrates legally binding digital identity, interoperable public services and regulated access to private and financial services within a single user interface, aiming to maximise public value, administrative efficiency and citizen trust rather than commercial profit. This definition emphasises several distinguishing characteristics. First, unlike private super-apps, public-sector super-apps are anchored in legal identity and institutional legitimacy. Digital identity is not merely a convenience feature but a foundational governance mechanism that enables service interoperability, accountability and rights protection. Second, service integration in the public-sector context prioritises functional coherence and social necessity over lifestyle aggregation, reflecting the non-market mandate of the state. Third, ecosystem openness is deliberately constrained and regulated, balancing innovation with data protection, competition neutrality and public oversight. Importantly, positioning Diia as a potential rather than fully mature public-sector super-app avoids conceptual overreach while acknowledging its pioneering role. The proposed definition thus extends super-app theory into the domain of public administration and provides a transferable analytical lens for evaluating similar initiatives in other countries. Overall, the study argues that super-apps for a public sector constitute a distinct category of digital platforms, requiring adapted theoretical criteria and evaluation metrics. Recognising this distinction is essential for advancing both scholarly understanding and evidence-based digital governance policy.

## ● DISCUSSION

The results of this study reinforce the view that the super-app is not merely a technical artifact, but a new stage in the evolution of digital platforms with significant governance implications. The analysis demonstrates that mature super-app ecosystems are distinguished by comprehensive service integration, unified user identity, embedded payment infrastructure and high-frequency user engagement. In the public sector context, achieving this level of integration faces certain structural challenges. The results of the analysis echoes with findings by N. Jain, & V. Jain (2025), that super-app maturity therefore emerges not from individual technological features but from the systemic interaction of these elements within a coherent platform governance ecosystem. Legal regulations and data protection requirements can limit the openness and extensibility of government digital platforms, making it harder to replicate the fluid ecosystems seen in the private sector.

Comparing obtained results with existing literature reveals both concordance and novel contributions. Notably, there was established a two-tier typology distinguishing “Mature Super-App Ecosystems” from “Emerging Super-App Platforms”. This distinction echoes scholarly observations that super-app development is a dynamic continuum rather than a binary state. M. Hasselwander & D. Weiss (2025), for instance, argued that platforms evolve through degrees of maturity and do not simply flip from non-super-app to super-app overnight. Another important dimension of super-app maturity is the controlled openness of the service ecosystem. The identification of Diia and similar platforms (Uber, Revolut, Glovo) as “emerging” super-apps aligns with this view by illustrating intermediate cases that fulfill some, but not all, super-app criteria. The previous research by M. Hasselwander (2024) highlighted the importance of cross-service integration and financial functionalities in enabling platform expansion and the findings of the research empirically confirm that such features are present only partially in emerging platforms. By systematically comparing Diia to Asian super-app archetypes, the research contributes empirical evidence to support theoretical frameworks like that proposed by D. Lucas & E. Lopes (2024), who called for an ecosystemic perspective in defining super-apps across different contexts. Indeed, the work directly addresses the scholarly call to bridge the study of private and public digital platforms. Few prior studies have explicitly compared commercial super-app ecosystems with government platforms or examined how super-app logic might transfer to the public sector. The results of this research help to fill that gap by analysing Diia through the same analytical lens applied to private super-apps, thereby extending the super-app concept into the realm of public administration.

The findings about Diia validated that it has rapidly incorporated features traditionally found in private super-apps, such as digital payments, a wide service catalog and a growing user base, supporting optimistic views that it is on a super-app. Policy analyses prepared by Digital state UA... (2025) highlighted that the integration of digital identity, public services and financial-sector interactions within platforms such as Diia creates favorable conditions for the development of integrated digital governance

ecosystems. Similarly, the former Minister of Digital Transformation of Ukraine M. Fedorov (2025) argued that consolidating numerous administrative services within a single digital platform simplifies citizen-state interactions and enhances the overall efficiency of public administration. At the same time, the research by W. Lol *et al.* (2025) emphasised that the long-term effectiveness of such platforms depends on collaborative governance and value co-creation processes, where public institutions, private actors and users jointly contribute to service development and delivery. This perspective highlights that further evolution of Diia requires not only technological expansion but also the institutionalization of ecosystem-based collaboration mechanisms. On the other hand, there were also identified structural limitations in Diia’s current model, including its limited openness to third-party services and the nascent stage of cross-sector integration. These gaps mean that while Diia is arguably one of the most advanced public-sector platforms globally, it cannot yet be deemed a fully mature super-app in the way WeChat or Grab are.

The study thereby provides a realistic assessment that complements the enthusiasm of practitioners with critical insight into what is still required for Diia to reach super-app maturity. Based on findings of O. Dorofeev & O. Dubynka (2024) the results are consistent with the view that digital participation tools must be coupled with transparency and accountability measures to translate technical achievements into public trust. In practice, it suggests that any further development of Diia, or similar initiatives elsewhere, should proceed hand-in-hand with strengthening legal safeguards, user education and feedback mechanisms to address citizens’ concerns. As S. Vezzoso (2024) noted, Europe’s regulatory frameworks (e.g., the Digital Markets Act) emphasise contestability and interoperability, which can constrain the emergence of single dominant platforms. Such constraints suggest that a public-sector super-app must navigate a delicate balance between innovation and regulation. Additionally, practical barriers from uneven digital infrastructure to varying levels of digital literacy among citizens, may hinder the full realisation of a super-app in government, so issues that Ukraine has grappled with in rolling out Diia. Overcoming these hurdles requires not only technology but also investments in capacity-building and inclusive design to ensure broad access and trust in the platform.

Despite these challenges, the findings indicate that adopting a super-app approach in the public sector can yield transformative benefits. Diia’s example illustrates how a well-orchestrated digital ecosystem can democratise governance, enhance transparency and improve the resilience of service delivery. In Ukraine’s case, integrating numerous public services into one platform has streamlined citizen-state interactions and maintained service continuity even amid crises. This outcome aligns with the notion that electronic governance tools are not just technical systems, but mechanisms for modernising and strengthening public administration. In particular, Diia’s centralised digital identity and service bundle have fostered greater citizen participation and convenience, supporting the idea that digital platforms can reconfigure the relationship between government and society. Such a perspective resonates with contemporary digital

governance theories. For example, the “government as a platform” paradigm emphasises that the state can act as an ecosystem orchestrator – coordinating various services and stakeholders through a common digital infrastructure to create public value, as mentioned in the work by A. Cordella & A. Paletti (2019). This view was also supported by I. Mergel *et al.* (2019), who argued that digital transformation in the public sector involves a shift toward platform-based governance models that enable cross-sector collaboration and integrated service delivery. The study’s conceptualisation of Diia fits this paradigm, reinforcing arguments that platform-based public services can drive innovation in how government functions. The research defines that a public-sector super-app should be viewed not only as a service delivery tool but as a holistic governance platform that embodies new forms of collaboration, data sharing and citizen empowerment, which is consistent with findings by K. Kolesnikova (2024).

Furthermore, the discussion of security, privacy and governance trade-offs remains pertinent when translating super-apps into the public domain. The research done by Y. Yang *et al.* (2023) cautions that super-app ecosystem regarding heightened privacy and cybersecurity, which might be damaged by with numerous mini-apps. While the study focused on organizational and functional dimensions, these concerns underscore an important limitation and area for future research. Public-sector super-apps will need robust safeguards and regulatory oversight to ensure that integrated services do not compromise data security or equity. For instance, as Diia accumulates sensitive personal data across many services, ensuring compliance with data protection standards and maintaining citizen trust is paramount. The findings implicitly support this caution: the institutional trust and accountability aspect in a government super-app is as critical as technology or design.

In summary, this study has theoretical and practical implications for digital government innovation. Theoretically, the research broadens the super-app concept by framing it within public administration and demonstrating that the ecosystem principles of super-apps can cross into the public sector, albeit with adaptations. This aligns with evolving perspectives in digital governance that encourage viewing government platforms as dynamic ecosystems rather than as isolated e-service portals. The novel definition of a “public-sector super-app” lays groundwork for future research to further refine and test this concept across different countries and contexts. Practically, by examining Diia through the super-app lens, the research provided insights into how governments might pursue greater service integration. The Ukrainian case shows that even under conditions of crisis and resource constraints, a well-designed digital platform can significantly enhance service delivery and citizen engagement. It also highlights that sustaining such an ecosystem requires continuous policy support, innovation and attention to the unique demands of public value (as opposed to profit) generation. Ultimately, the super-app for public sector should be seen as a strategic model for digital governance – one that holds promise for creating more responsive, inclusive and efficient public services, if it is

implemented with careful consideration of context and with robust institutional support.

## ● CONCLUSIONS

The comparative analysis of mature super-app ecosystems reveals a stable set of criteria that distinguish super-apps from conventional digital platforms. These criteria include comprehensive service bundling, seamless integration of financial services, centralised digital identity mechanisms, strong ecosystem partnerships and high-frequency user engagement. Mature super-apps demonstrate that platform sustainability is achieved not through the expansion of individual services, but through the orchestration of interoperable services within a single user environment. This finding reinforces the view that super-app maturity is determined by ecosystem governance and institutional embeddedness rather than by technological sophistication alone. The examination of emerging super-app platforms indicates that many contemporary digital platforms exhibit partial alignment with super-app criteria but remain constrained by structural, regulatory, or organisational limitations. These platforms typically lack either full-service integration, public-sector interoperability, or advanced governance mechanisms necessary for ecosystem coordination. The analysis highlights that the transition from an emerging platform to a mature super-app requires deliberate strategic alignment across technological, institutional and regulatory dimensions.

Within this analytical framework, the case of Ukraine and the Diia platform occupies a unique position. The findings suggest that Diia cannot yet be fully classified as a mature super-app in the conventional sense; however, it represents one of the most advanced global examples of a public-sector super-app in formation. Unlike private-sector platforms, Diia operates within a public governance logic, prioritising legal validity, inclusivity and state accountability over commercial optimisation. The study demonstrates that Diia already fulfills several core super-app criteria, including unified digital identity, multi-sector service integration and embedded interactions with financial institutions. At the same time, identified gaps, such as limited third-party ecosystem openness and constrained cross-sector interoperability, define its current status as a potential public-sector super-app. Future research should focus on empirical validation of the proposed framework across different national contexts, comparative assessment of public and private super-app governance models and longitudinal analysis of ecosystem evolution in public-sector platforms. Additional attention should be given to regulatory design, data governance and citizen trust as critical determinants of sustainable super-app development in the public sector.

## ● ACKNOWLEDGEMENTS

None.

## ● FUNDING

None.

## ● CONFLICT OF INTEREST

None.

## ● REFERENCES

- [1] An, S., Cheung, C., & Willoughby, K. (2024). A gamification approach for enhancing older adults' technology adoption and knowledge transfer: A case study in mobile payments technology. *Technological Forecasting and Social Change*, 205, article number 123456. doi: 10.1016/j.techfore.2024.123456.
- [2] Balogh, A., & Varga, J. (2024). Superapps: At the crossroads of enhanced customer experience and innovation management theories. *Edelweiss Applied Science and Technology*, 8(4), 848-860. doi: 10.55214/25768484.v8i4.1465.
- [3] Boh, W., Constantinides, P., Padmanabhan, B., & Viswanathan, S. (2023). [Building digital resilience against major shocks](#). *MIS Quarterly*, 47(1), 343-360.
- [4] Cordella, A., & Paletti, A. (2019). Government as a platform, orchestration and public value creation. *Government Information Quarterly*, 36(4), article number 101409. doi: 10.1016/j.giq.2019.101409.
- [5] Creating the superapp. (n.d.). Retrieved from <https://www.grab.com/sg/about/superapp>.
- [6] Digital State UA – a global platform for digital solutions and GovTech innovation launched. (2025). Retrieved from <https://itukraine.org.ua/en/digital-state-ua-a-global-platform-for-digital-solutions-and-govtech-innovation-launched>.
- [7] Dorofeev, O., & Dubynka, O. (2024). Peculiarities of the process of digitalisation of the communicative component in the activity of public authorities. *Herald of Khmelnytskyi National University. Economic Sciences*, 330(3), 207-211. doi: 10.31891/2307-5740-2024-330-32.
- [8] European Commission. (2022). *Digital public services in the digital economy and society index*. Retrieved from <https://digital-strategy.ec.europa.eu/en/policies/desi-digital-public-services>.
- [9] European Commission. (2023). *Digital public services in the digital economy and society index*. Retrieved from <https://digital-strategy.ec.europa.eu/en/policies/desi-digital-public-services>.
- [10] Fedorov, M. (2025). *Ukraine turns public services into one click: What's next in the Diia evolution*. Retrieved from <https://digitalstate.gov.ua/news/govtech/rozluchennia-onlayn-ai-asystent-ta-eaktsyz-nad-iakymy-servisamy-pratsiuye-komanda-diyi>.
- [11] Find more about WeChat – China's superapp at a glance. (2024). Retrieved from <https://www.charlesworth-group.com/blog/wechat-superapp>.
- [12] Floetgen, R., Strauss, J., Weking, J., Hein, A., Urmetzer, F., Böhm, M., & Krcmar, H. (2021). Introducing platform ecosystem resilience: Leveraging mobility platforms and their ecosystems for the new normal during COVID-19. *European Journal of Information Systems*, 30, 304-321. doi: 10.1080/0960085X.2021.1884009.
- [13] Florene, U. (2020). *Should Southeast Asian super apps follow the same route as their Chinese peers?* Retrieved from <https://kr-asia.com/should-southeast-asian-super-apps-follow-the-same->
- [14] Garcia, T., Grodzicki, M., & Radulova, P. (2025). *Digital banking: How new bank business models are disrupting traditional banks*. Retrieved from [https://www.ecb.europa.eu/press/financial-stability-publications/fsr/focus/2025/html/ecb.fsrbox202505\\_04~17b39a3c1a.en.html](https://www.ecb.europa.eu/press/financial-stability-publications/fsr/focus/2025/html/ecb.fsrbox202505_04~17b39a3c1a.en.html).
- [15] Gavkalova, N., & Kunitsyn, O. (2025). [Super-apps concept: The next step of digitalization of public services in Ukraine](#). In *Proceedings of the 12<sup>th</sup> international scientific and practical conference on changes in public governance* (pp. 27-28). Vilnius: Vilnius University.
- [16] Hasselwander, M. (2024). Digital platforms' growth strategies and the rise of super apps. *Heliyon*, 10(5), article number e25856. doi: 10.1016/j.heliyon.2024.e25856.
- [17] Hasselwander, M., & Weiss, D. (2025). Consumer preferences for super-app services: E-commerce, social media and banking dominate. *European Research on Management and Business Economics*, 31(2), article number 100284. doi: 10.1016/j.iedeen.2025.100284.
- [18] How Glovo works – delve into its business model and revenue streams. (n.d.). Retrieved from <https://www.elluminatiinc.com/how-glovo-works-business-model-revenue-streams/>.
- [19] Jain, N., & Jain, V. (2025). [Assessing the impact of super app integration and contactless payment technologies on consumer buying behavior in Western India](#). *Journal of Informatics Education and Research*, 5(3), 536-544.
- [20] Jesse, S. (2026). *WeChat mini programs – everything you need to know to succeed*. Retrieved from <https://digitalcreative.cn/blog/wechat-mini-programs-simple-guide>.
- [21] Kolesnikova, K. (2024). Digitization of public services in Ukraine: Institutional and governance perspectives. *Philosophy and Governance*, 1, 18-27. doi: 10.70651/3041-248X/2024.1.03.
- [22] Levesque, V.R., Bell, K.P., & Johnson, E.S. (2024). The role of municipal digital services in advancing rural resilience. *Government Information Quarterly*, 41(1), article number 101883. doi: 10.1016/j.giq.2023.101883.
- [23] Li, H., & Kostka, G. (2022). Accepting but not engaging with it: Digital participation in local government-run social credit systems in China. *Policy & Internet*, 14(4), 845-874. doi: 10.1002/poi.3.316.
- [24] Lol, W.G., Petrova, K., & Pais, S. (2025). Value co-creation for e-government services in small island developing nations: A case study. *Information*, 16(7), article number 613. doi: 10.3390/info16070613.
- [25] Lucas, D., & Lopes, E.L. (2024). Defining a super-app and analyzing it from an ecosystemic perspective. *Research Square*. doi: 10.21203/rs.3.rs-4542297/v1.
- [26] Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. *Government Information Quarterly*, 36(4), article number 101385. doi: 10.1016/j.giq.2019.06.002.

- [27] Ministry of Digital Transformation of Ukraine. (n.d.). *Diiia: Digital state services*. Retrieved from <https://thedigital.gov.ua/projects/technologies/diia-derzhavni-poslugi-onlajn>.
- [28] Mustapha, A. (2024). *From messaging to super app: How WeChat dominates China's digital landscape*. Retrieved from <https://www.gizchina.com/news/from-messaging-to-super-app-how-wechat-dominates-chinas-digital-landscape>.
- [29] Ochoa, L. (2025). *Introducing the super-app: The future of digital consumer systems*. Retrieved from <https://instituteofintereconomics.org/introducing-the-super-app-the-future-of-digital-consumer-systems/>.
- [30] OECD. (n.d.). *Government innovation*. Retrieved from <https://www.oecd.org/gov/innovative-government/global-trends-in-government-innovation-2022.html>.
- [31] OECD. (n.d.). *Digital government*. Retrieved from <https://www.oecd.org/gov/digital-government/public-digital-platforms.html>.
- [32] Osio, J. (2020). *Mobile payments, mini-programs are key features of Chinese super apps*. Retrieved from <https://www.spglobal.com/market-intelligence/en/news-insights/research/mobile-payments-mini-programs-are-key-features-of-chinese-super-apps>.
- [33] Resolution of Cabinet of Ministers of Ukraine No. 606 "Regulation on Electronic Interaction of Electronic Information Resources". (2016, September). Retrieved from <https://www.kmu.gov.ua/storage/app/uploads/public/68d/e72/948/68de729485b97200741418.pdf>.
- [34] Reuver, M., Sørensen, C., & Basole, R.C. (2018). The digital platform: A research agenda. *Journal of Information Technology*, 33(2), 124-135. doi: 10.1057/s41265-016-0033-3.
- [35] Revolut Ltd. (n.d.). *About us*. Retrieved from <https://www.revolut.com/about-revolut-route-as-their-chinese-peers>.
- [36] Sanchez, P. (2025). *WeChat: Features and functions of the Chinese super app*. Retrieved from <https://en.androidayuda.com/applications/Tutorials/wechat-what-is-it>.
- [37] The rise of the super app. (2022). Retrieved from <https://www.unifonic.com/en/resources/the-rise-of-the-super-app>.
- [38] Tim, Y., Chiew, T.K., Lim, H.M., Teo, C.H., & Ng, C.J. (2023). Design process knowledge for crisis-driven information systems solutions: Insights on building digital resilience from an action design research study. *Information Systems Journal*, 33(6), 1343-1369. doi: 10.1111/isj.12457.
- [39] Uber Technologies, Inc. (n.d.). *About us*. Retrieved from <https://www.uber.com/us/en/about/>.
- [40] Vezzoso, S. (2024). Super apps and the digital markets act. *ArXiv*. doi: 10.48550/arXiv.2404.04506.
- [41] Vyhovska, V., Sholudko, V., & Balytska, M. (2025). *State digital transformation in Ukraine: 2019-2024 review*. Retrieved from <https://voxukraine.org/derzhavna-tsyfrova-transformatsiya-analiz-za-2019-2024-roky>.
- [42] Yang, Y., Wang, C., Zhang, Y., & Lin, Z. (2023). Decoding the super app enigma: The security mechanisms, threats and trade-offs in OS-alike apps. *ArXiv*. doi: 10.48550/arXiv.2306.07495.
- [43] Yazan, B., & Vasconcelos, I. (2015). *Three approaches to case study methods in education: Yin, Merriam and Stake*. *The Qualitative Report*, 20(2), 134-152.

## Теоретичні основи концепції суперзастосунку для цифровізації публічного сектору: досвід України

### Наталія Гавкалова

Доктор економічних наук, професор  
Харківський національний економічний університет імені Семена Кузнеця  
61166, просп. Науки, 9А, м. Харків, Україна  
<https://orcid.org/0000-0003-1208-9607>

### Олег Куніцин

Аспірант  
Харківський національний економічний університет імені Семена Кузнеця  
61166, просп. Науки, 9А, м. Харків, Україна  
<https://orcid.org/0009-0008-7552-7946>

### Вікторія Мельник

Кандидат економічних наук, доцент  
Харківський національний економічний університет імені Семена Кузнеця  
61166, просп. Науки, 9А, м. Харків, Україна  
<https://orcid.org/0000-0002-8630-7796>

### Вікторія Белявцева

Доктор економічних наук, професор  
Харківський національний економічний університет імені Семена Кузнеця  
61166, просп. Науки, 9А, м. Харків, Україна  
<https://orcid.org/0000-0001-8773-9307>

**Анотація.** Метою дослідження було обґрунтування теоретичних засад концепції «суперзастосунку» та оцінювання можливостей її застосування у процесі цифровізації публічного сектору з особливим акцентом на український контекст. Було встановлено, що, попри поширення екосистем суперзастосунків у приватному секторі, в академічній літературі залишалося відсутнім уніфіковане визначення цього поняття, а також бракувало системного аналізу його потенційної ролі в наданні публічних послуг. Для подолання цієї прогалини у дослідженні було застосовано змішаний методологічний підхід, який поєднав порівняльний аналіз, структурно-функціональний аналіз та якісну оцінку міжнародних і національних кейсів. У межах дослідження було здійснено порівняння зрілих екосистем суперзастосунків (WeChat, Grab, Gojek, Какао) з платформами, що перебувають на етапі становлення (Uber, Revolut, Glovo, Diia), з метою визначення ключових критеріїв, які відрізняли повноцінні суперзастосунки від платформ на ранніх стадіях формування екосистеми. Результати аналізу засвідчили, що зрілі суперзастосунки характеризуються глибокою інтеграцією сервісів, наявністю вбудованих інфраструктур цифрової ідентифікації та платежів, відкритістю екосистеми й стабільною залученістю користувачів у різних сферах повсякденної діяльності. Платформи, що перебувають на етапі становлення, лише частково відповідають цим критеріям, виявляючи структурні обмеження, пов'язані з моделями управління, регуляторним середовищем і координацією екосистеми. Застосування запропонованої аналітичної моделі до українського контексту дало змогу розглянути застосунок «Дія» як потенційний суперзастосунок для публічного сектору. Було виявлено, що «Дія» вже демонструє низку визначальних ознак суперзастосунку, зокрема централізовану цифрову ідентифікацію, широке охоплення послуг і масштабне залучення користувачів. За результатами дослідження було окреслені стратегічні напрями подальшої еволюції «Дії» у напрямі становлення суперзастосунком для публічного сектору, що має практичне значення, та було сформульоване авторське визначення поняття «суперзастосунок для публічного сектору», що дозволило розширити теоретичне розуміння платформних моделей цифрового публічного управління.

**Ключові слова:** цифрове врядування; платформні екосистеми; інтеграція публічних послуг; цифрова публічна інфраструктура; інновації електронного урядування