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Institutional shifts in the digital economy: Behavioural and strategic implications for economic governance

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Abstract. This article examined the institutional transformations induced by the digital economy, with particular emphasis on their behavioural and strategic implications for economic governance. The study aimed to classify new institutional forms that have emerged within digital ecosystems and to analyse their influence on coordination, compliance, and decision-making among economic agents. A conceptual framework was developed on the basis of content analysis, comparative institutional review, and theoretical synthesis, drawing on up-to-date academic and policy sources. The findings showed that traditional regulatory models based on hierarchical authority have been increasingly replaced by algorithmic governance, platform-mediated regulation, and behavioural mechanisms such as nudging and reputational scoring. These mechanisms transformed economic behaviour by fostering conformity, shortening decision cycles, and altering preference formation. Strategic institutional responses included the introduction of digital tools such as e-government platforms, algorithmic audits, and performance dashboards. Public and private institutions displayed varying levels of digital maturity, leading to asymmetrical outcomes in accountability, inclusiveness, and trust. The study produced a typology of institutional strategies and behavioural effects to illustrate the structural and cognitive dimensions of digital institutionalisation. It also explored co-evolutionary dynamics, showing how institutions and behaviours mutually adapt through feedback loops and reflexive governance. The research identified behavioural opacity, decision-making acceleration, and emotional heuristics as key characteristics of digital environments. The practical relevance of the study lies in its value for policymakers, digital system designers, and institutional reformers. The results provide a basis for understanding how governance can remain effective, fair, and legitimate in technologically mediated systems. By integrating institutional theory with behavioural economics, the article contributes to a deeper understanding of governance adaptation in the context of rapid digital transformation

Keywords: algorithmic governance; behavioural effects; institutional transformation; platform regulation; digital coordination; policy adaptation; economic agency

Introduction

The relevance of institutional transformations in the digital economy is determined by the accelerating integration of digital technologies into all domains of economic governance. Traditional frameworks of coordination and control had become increasingly inadequate in addressing the speed, complexity, and decentralisation introduced by digital systems. This created both theoretical challenges in analysing new governance dynamics and practical dilemmas for policymakers and institutions seeking legitimacy and efficiency in rapidly evolving environments. The

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conceptual foundations for studying institutional change in the digital economy were informed by a growing body of research that examined the relationship between digital technologies, governance mechanisms, and economic coordination. These studies provided valuable insights into the behavioural and strategic implications of digital transformation and served as a foundation for analysing institutional responses across various contexts. A more detailed overview of these contributions is presented in the following section. The evolution of the digital economy has fundamentally redefined the institutional logic of economic governance, prompting both theoretical reconsideration and practical transformation. Traditional models of centralised policy coordination and hierarchical regulation are increasingly challenged by decentralised digital ecosystems, algorithmic decision-making, and platform-based market structures. This shift is particularly relevant in the context of post-industrial societies and transitional economies, where digitalisation introduces new behavioural patterns and alters the strategic trajectories of economic agents (Wang *et al*., 2024; Kalinin, 2024).

Research increasingly emphasises the multidimensional nature of digital transformation, combining institutional, behavioural, and technological components. V. Kozub *et al.* (2024) explored how digital economies reshape the innovative environment by embedding platform logic into business ecosystems. The study addressed how institutional structures must adapt to accommodate fast-moving behavioural patterns driven by interface architecture and algorithmic feedback, forming the basis for innovation-oriented economic coordination. The problem of institutional inertia and adaptation was analysed by T.V. Tomashevska & V.V. Kozlov (2021), arguing that digital innovation often outpaces regulatory reform, creating governance mismatches and "vacuum zones" in institutional enforcement. This observation is essential to research on the urgency of new institutional logics in digital contexts. S. Kergroach (2021), in the Organisation for Economic Co-operation and Development (OECD)'s policy frameworks, addressed this gap by examining how public institutions – particularly those supporting small and medium-sized enterprises (SMEs) – must develop responsive and anticipatory governance capacities. The findings underscored that digital transformation is not solely a technical issue but one of institutional agility and strategic resilience.

The risks of algorithmic concentration and platform dominance were highlighted by Z. Hong & K. Xiao (2024) in an analysis of the role of blockchain and artificial intelligence in fostering – or undermining – sustainability and inclusivity in digital economies. The study emphasised the need for institutional safeguards that limit the monopolistic tendencies of platform capitalism, while promoting equitable access and ethical standards. In another relevant contribution, A.A. Vărzaru & C.G. Bocean (2024) linked digital investment directly with organisational performance, providing empirical evidence of how strategic adaptability to digital tools enhances not only productivity but also long-term competitiveness. This strategic angle is mirrored in institutional reforms seeking to integrate behavioural responsiveness and algorithmic coordination.

The interplay between digital transformation and human capital development was explored by L. Antoniuk *et al.* (2021), arguing that the success of institutional reforms depends on the behavioural competencies and digital skills of economic agents. The study outlined how education systems and governance frameworks must co-evolve to ensure adaptive capacity in a rapidly shifting digital landscape. O.L. Galtsova (2021) emphasised the role of institutional digitalisation in driving national economic growth. The study indicated that digital platforms do not merely support market operations but also redefine the structure of public-private collaboration, necessitating hybrid forms of governance and shared accountability. These contributions form a coherent theoretical landscape that highlights the behavioural and strategic implications of institutional shifts in the digital economy. While V. Kozub *et al.* (2024) and L. Antoniuk *et al.* (2021) emphasised the embeddedness of behavioural design in economic structures, V.V. Tomashevska & T.V. Kozlov (2021) revealed the regulatory lag that exposes systemic vulnerabilities. In parallel, studies by S. Kergroach (2021), Z. Hong & K. Xiao (2024), and O.L. Galtsova (2021) demonstrated that public institutions must respond to evolving platform dynamics with inclusive, transparent, and reflexive governance mechanisms.

Building upon these insights, the study aimed to classify the institutional forms emerging within digital ecosystems and to analyse their behavioural and strategic implications for economic governance. The research novelty is determined by integration of institutional theory with behavioural economics and digital transformation studies. A structured analytical framework is proposed, offering a typology of institutional mechanisms and behavioural effects, and evaluating their influence on compliance, coordination, and decision-making. The research also explored the reflexivity of institutions, proposing that they co-evolve with economic agent behaviour through real-time feedback, interface governance, and algorithmic logic. Therefore, the study contributed to research on governance can remain effective, legitimate, and socially responsive in technologically mediated systems. By analysing institutional adaptation through a behavioural lens, it offers a roadmap for policymakers, businesses, and civil society actors seeking to navigate the complexities of digital transformation with resilience and foresight.

Materials and Methods

This study was conceptual and analytical in nature, aiming to investigate the behavioural and strategic dimensions of institutional transformation in the digital economy. The research design consisted of several interrelated stages, each structured to ensure coherence, methodological depth, and replicability. The analysis was conducted using secondary data sources, conceptual frameworks, and comparative case-based evidence. At the initial stage, the theoretical

and methodological foundations were established through a systematic review of interdisciplinary literature. Works that combined institutional theory, behavioural economics, and digital transformation studies were emphasised. Key methodological references included the conceptual modelling frameworks proposed by L. Antoniuk *et al.* (2021), the behavioural design logic analysed by V.O. Kozub *et al.* (2024), and comparative public governance approaches such as those outlined by O. Yevtushenko (2024) and S. Kergroach (2021). These sources were selected due to their relevance, methodological transparency, and applicability to institutional contexts influenced by digitalisation. The literature review encompassed peer-reviewed sources published within the last 3-5 years, ensuring the empirical relevance of the conceptual model.

The second stage involved data extraction and classification. Input material for the study consisted of policy documents, institutional reports, academic case studies, and statistical summaries (e.g., OECD digital government index, 2023; UN E-government survey 2024, 2024; The digital economy and…, n.d.) referenced in the selected literature. These inputs were used to identify and classify institutional mechanisms within the digital economy. Comparative content analysis was employed to organise the material into four thematic clusters: digital public governance, institutional innovation, behavioural adaptation, and strategic transformation. The classification aimed to identify recurring patterns, conceptual inconsistencies, and emerging institutional typologies. The third stage employed interpretive synthesis to analyse the behavioural aspects of institutional change. The synthesis method was used to examine how algorithmic tools, interface design, and reputational systems shaped incentives, decision-making processes, and user feedback loops. Triangulation was applied to compare theoretical frameworks, policy examples, and illustrative cases. To ensure cross-contextual relevance, the analysis included documented case evidence from Ukraine and China. These countries were selected due to their contrasting institutional environments and stages of digital development. Ukraine represented a transitional economy undergoing rapid digital transformation, while China offered a mature example of platform-based governance and algorithmic coordination.

Furthermore, digital platforms such as Amazon (Amazon services business…, n.d.), Uber (Uber community guidelines, n.d.), and Alibaba (Alibaba group platform…, 2017) were referenced as illustrative cases of platform-mediated regulation. These examples were chosen because they embodied key mechanisms of digital institutionalisation, such as behavioural nudging, real-time compliance, and soft regulation through interface logic. Publicly available documentation, terms of service, user rating systems, and platform governance models were analysed to further describe the non-traditional forms of institutional enforcement. The study utilised secondary empirical material embedded within reviewed literature. Where necessary, statistical indicators from institutional reports, such as OECD digital government index (2023) and UN E-government survey 2024 (2024), were referenced to support structural comparisons. The final stage involved the construction of an analytical framework for evaluating institutional shifts. This framework integrated elements from institutional economics, behavioural science, and digital governance theory. The resulting structure was designed to be applicable for future comparative research, particularly in contexts marked by volatility, complexity, and technological acceleration. Overall, the methodology ensured a structured and theory-driven exploration of institutional dynamics in digital ecosystems, providing a basis for interpreting behavioural mechanisms and strategic institutional responses without engaging in direct empirical measurement.

Results and Discussion

The digital economy is increasingly recognised as a transformative force that challenges the foundational architecture of institutional economic governance. Traditional regulatory models, grounded in hierarchical structures and linear policy execution, are giving way to decentralised, dynamic, and data-driven mechanisms that reshape the logic of economic coordination. This transformation is not technical but institutional in nature, necessitating a re-examination of the public and private aspects, the mechanisms of enforcement, and the behavioural assumptions underlying governance frameworks. One of the central manifestations of this institutional shift is the reconfiguration of regulatory authority. In traditional economies, state agencies maintained a monopoly on economic regulation through formal legislative instruments, command-based oversight, and standardised enforcement procedures. However, in digital economies, the emergence of algorithmic governance, real-time data monitoring, and platform-mediated transactions has redistributed regulatory functions among a more diverse set of actors. Digital platforms such as Amazon (Amazon services business…, n.d.) Alibaba (Alibaba group platform…, 2017), and Uber (Uber community guidelines, n.d.) have effectively become quasi-regulators, as they establish and enforce the rules that govern participation in their ecosystems. These platforms define the terms of market access through internal policies and algorithmic filters, such as who can sell, at what price, and under what conditions. They set pricing logic not via direct control, but through dynamic pricing algorithms, commission structures, and search result prioritisation that indirectly shape market behaviour. Additionally, their reputational metrics, such as user ratings, reviews, and seller scores, are used as informal enforcement tools, encouraging conformity to platform norms without formal legal intervention.

These entities do not merely facilitate transactions; they curate user behaviour by embedding regulatory functions within their technological infrastructure. Algorithms enforce compliance by rewarding certain actions (e.g., fast delivery, high response rate) and penalising others (e.g., low ratings, cancelled orders), thus substituting traditional

institutional oversight with automated behavioural steering mechanisms. As a result, platforms govern large-scale economic interactions while operating outside conventional regulatory frameworks, raising concerns about accountability, fairness, and user agency. New institutional forms, such as digital platforms, consortia, and distributed autonomous organisations (DAOs), are beginning to displace classical institutional intermediaries such as chambers of commerce, industry associations, and regulatory councils. These digital-native institutions operate according to different logics: they are faster, more adaptive, and often governed by code-based rule systems that update autonomously in response to network activity. This institutional fluidity enhances responsiveness but raises concerns about accountability, transparency, and inclusivity.

In transitional economies, such as Ukraine, the institutional adaptation to digital logic is particularly complex. On the one hand, there is an opportunity to leapfrog legacy constraints and adopt advanced governance mechanisms that support innovation and market dynamism. On the other hand, weak institutional capacity and legal uncertainty can amplify systemic risks, including regulatory capture by digital monopolies, fragmentation of enforcement, and loss of sovereign control over key economic infrastructures. By contrast, China provided a distinctive case of institutional digitalisation driven by top-down governance and state-led technological infrastructure. Its digital economy was shaped by centrally coordinated initiatives, including large-scale integration of algorithmic decision-making in public services, surveillance systems, and financial technology. These institutional characteristics facilitated rapid policy execution, behavioural standardisation, and technological scaling. In comparison to Ukraine's more adaptive but fragmented environment, China's digital transformation demonstrated high institutional coherence and strong regulatory penetration, albeit with lower participatory flexibility. This contrast was used to explore institutional reflexivity across different governance models and infrastructural baselines.

These tendencies are further complicated by behavioural shifts that accompany institutional transformation. In digital environments, economic agents increasingly rely on behavioural cues derived from peer activity, real-time feedback, and algorithmic suggestions rather than formal institutional mandates. This created what some scholars refer to as "soft regulation" – a system in which norms, ratings, and interface architecture shape compliance more effectively than legal sanction. Such forms of influence are highly effective in inducing conformity but may be uneven in their application and vulnerable to manipulation. To illustrate the shift in institutional design and coordination, Table 1 presents a comparative overview of traditional and digital institutional structures across several dimensions of economic governance. The table demonstrates how digital mechanisms supplement or substitute conventional regulatory tools and how this impacts economic agent behaviour.

Table 1. Comparative characteristics of traditional and digital institutions in economic governance

Dimension	Traditional Institutions	Digital Institutions	Key Implication
Regulatory authority	Centralised (state agencies)	Decentralised (platforms, DAOs)	Shift from legal to algorithmic enforcement
Decision-making structure	Hierarchical	Network-based	Enhanced agility, risk of fragmented control
Speed of policy adaptation	Low	High	Greater responsiveness, volatility risk
Information asymmetry	High	Reduced via real-time data	Improved transparency, new privacy concerns
Compliance enforcement	Legal sanction	Reputation systems, algorithmic nudges	Behaviour shaped by indirect incentives
Institutional accountability	Formalised (audit, courts)	Weak or non-existent	Need for new accountability frameworks
Access to participation	Limited (bureaucratic thresholds)	Broad, open to digital inclusion	Risk of digital divide and exclusion
Standardisation mechanisms	Regulatory norms and licensing	Code, interface design, user guidelines	Norms embedded in technology

Source: compiled by the authors based on V.S. Bilozubenko & R.O. Horodnytskyi (2021), J. Xu & W. Li (2022), OECD digital government index (2023), A.A. Vărzaru & C.G. Bocean (2024), Z. Chen & R. Xing (2025)

The shift toward digitally mediated institutions also alters the time horizons and incentive structures under which governance operates. Traditional institutions often function on medium- to long-term cycles, reflecting the slow pace of policy development, consultation, and implementation. In contrast, digital governance mechanisms are capable of near-instant adjustments, driven by feedback loops from user interaction, market fluctuations, and system diagnostics. This enhances responsiveness but can undermine strategic consistency and long-term planning capacity.

Institutional resilience under digitalisation requires new capabilities: data governance, technological literacy among policymakers, cross-sectoral coordination, and algorithmic accountability. As institutions evolve, so too

evaluation methods. Metrics such as trust in digital systems, fairness of algorithmic processes, and inclusiveness of platform participation are becoming as crucial as compliance rates and audit scores in assessing governance quality. Furthermore, institutional change is not uniform across sectors or geographies. While finance and e-commerce exhibit high levels of digital institutionalisation, sectors such as public health, education, and labour markets often lag due to regulatory complexity and equity considerations. This creates a fragmented institutional landscape where some domains are governed by hyper-responsive digital protocols and others by slow-moving bureaucratic routines. The implications for coordination, coherence, and justice are profound and demand a reassessment of institutional complementarities.

In summary, the transformation of economic institutions under digital conditions is reshaping the architecture of governance in both visible and subtle ways. These changes are driven not only by technological affordances but also by evolving behavioural patterns and new expectations about the role of authority, participation, and trust in the economy. Determination of these dynamics is essential for designing adaptive and inclusive governance systems in the digital era. The institutional transformation associated with the digital economy is not merely structural or technological; it is deeply behavioural. As economic coordination increasingly relies on digital platforms, algorithms, and mediated interactions, the behaviour of economic agents is being reshaped through new cognitive stimuli, altered feedback loops, and changed notions of accountability and trust. These behavioural changes represent a critical yet underexplored dimension of institutional adaptation and require systematic analysis to analyse their scope, mechanisms, and economic consequences.

At the core of these behavioural shifts lies a fundamental redefinition of how information is processed and how decisions are made. Digital institutions prioritise speed, personalisation, and interaction, which leads to increased reliance on heuristic-based thinking, behavioural nudging, and identity-driven decision-making. Users interact with interfaces designed to optimise engagement, often unconsciously internalising platform-imposed hierarchies, preference architectures, and gamified incentives. Digital environments foster what may be described as a responsive rationality, in which decision-making is based less on long-term optimisation and more on real-time adaptation to signals, cues, and algorithmic prompts. This creates vulnerabilities: confirmation bias is amplified by filter bubbles, herding behaviour intensifies through viral trends, and perceived utility is increasingly shaped by emotionally charged digital narratives rather than intrinsic value. Moreover, platform architecture often obscures the mechanisms of influence, reducing users' capacity to critically evaluate the source, purpose, and implications of the stimuli they receive.

Table 2 summarised key behavioural effects triggered by digital institutional mechanisms, categorised by the source of behavioural modulation, the dominant psychological process involved, and the typical economic consequence. These effects are distinct from those in traditional institutional settings, where behavioural change is primarily induced through law, policy, or norm enforcement.

Table 2. Behavioural effects of institutional transformation in the digital economy

Source of influence	Psychological mechanism	Behavioural outcome	Economic consequence
Algorithmic personalisation	Confirmation bias	Selective exposure to reinforcing content	Reduced informational diversity
Reputation systems	Social comparison	Peer-driven consumption or investment choices	Amplified herd behaviour
Real-time feedback	Reinforcement learning	Habitual usage, interface-driven decisions	Lock-in effects, reduced consumer mobility
Gamification elements	Variable reward schedules	Compulsive platform use	Attention monetisation, productivity loss
Influencer marketing	Parasocial interaction	Imitative purchasing behaviour	Trend-driven demand spikes
Emotional narrative framing	Affective heuristics	Emotionally biased evaluations	Impulsive transactions, volatility
Rating & review systems	Bandwagon effect	Overweighting of social proof	Conformity, strategic reputation management
Platform default settings	Status quo bias	Inertia in user choice	Passive engagement, reduced innovation uptake

Source: compiled by the authors

One of the most significant consequences of these behavioural shifts is the erosion of stable preferences. In traditional economic models, preferences are assumed to be exogenous and consistent over time. However, in digital environments, preferences are increasingly constructed in interaction with institutional settings. For instance, the visibility of "trending" products or "most liked" content alters user judgments of quality or relevance, regardless of prior preferences. This interactional construction of preference is shaped by platform logics, not user deliberation, and has profound implications for models of consumer sovereignty and utility maximisation. In such environments,

behaviour is no longer only a function of choice but also a function of design. Interface architecture, feed algorithms, and user flow pathways operate as behavioural scripts, steering attention and constraining options. In contrast to traditional institutional designs that relied on explicit rule-following, digital institutions operate via implicit design affordances that subtly induce compliance or engagement. This shifts the behavioural burden from rational deliberation to environmental responsiveness.

The opacity of digital institutional mechanisms makes it difficult for users to develop robust mental models of how decisions are structured or what consequences follow from their actions. When individuals do not comprehend the incentive structures they are embedded in, it becomes harder to assign responsibility, anticipate outcomes, or make strategic choices. This behavioural opacity undermines not only economic agency but also democratic accountability. The digital economy also accelerates the temporality of behaviour. Feedback loops are shortened, gratification is more immediate, and decision-making cycles are compressed. This favours short-termism, impulsivity, and emotional reasoning over strategic foresight. Economic actors, whether consumers, entrepreneurs, or policymakers, are increasingly oriented toward immediacy, which limits the capacity for long-term planning, resilience-building, or systemic thinking.

These behavioural dynamics are not equally distributed across populations. Age, digital literacy, and socio-economic status are critical in mediating susceptibility to behavioural modulation. Younger users, for instance, may be more adaptable to platform logic but also more vulnerable to attention capture and social influence. Conversely, older users may struggle with navigation and interface design, leading to exclusion or misinformed decision-making. Institutional responses to these behavioural phenomena must therefore go beyond formal regulation. There is a growing need for behaviourally informed institutional design–one that incorporates insights from cognitive psychology, user experience (UX) research, and digital ethics. Such design approaches may include transparent algorithm disclosures that demonstrate the basis of automated decisions to users. Institutions can also implement default options that nudge individuals toward welfare-enhancing choices without restricting freedom. Another substantial component is the development of user control dashboards, which can be used by individuals to manage data usage and customise recommendation algorithms. Additionally, educational prompts can be integrated at decision-critical moments, including those related to investment or health, to foster more informed and deliberate actions.

Behavioural effects in the digital economy are reflexive: they not only respond to institutional structures but also reshape them. For instance, collective shifts in user behaviour can influence platform policies (as seen in content moderation or user bans), while mass adoption of a behavioural norm (such as ride-sharing etiquette or rating inflation) may evolve into formalised governance features. In conclusion, behavioural effects are integral to research on how institutional change in the digital economy alters not only structures of governance but also the foundations of economic agency. Recognising and integrating these dynamics is essential for building digital institutions that are both efficient and humane – ones that respect autonomy, enhance rationality, and support socially beneficial behaviour.

The strategic dimension of institutional shifts in the digital economy entails a recalibration of priorities, tools, and operational models across both public and private sectors. Institutions no longer operate in isolation from digital infrastructures – they are embedded within them, influenced by their logic, and often reliant on their functioning. This integration forces traditional institutions to develop new strategic competencies, such as digital foresight, adaptive policymaking, and cross-sectoral collaboration. Strategic responses to digital transformation vary considerably depending on institutional typology, digital maturity, and governance context. Nevertheless, several recurring patterns can be identified. One such pattern is institutional convergence, where public institutions adopt business-like digital strategies (e.g., customer journey mapping, performance dashboards), while private actors internalise regulatory functions through self-governance (e.g., community standards, content moderation). Another strategic trend is the outsourcing of intelligence. Governments increasingly rely on private digital platforms for data, surveillance, and service delivery – often without sufficient transparency or legal oversight. This creates asymmetries of power, where non-state actors shape public agendas and influence socio-economic outcomes without formal democratic accountability. To conceptualise how different types of institutions adapt strategically to digital conditions, the table below categorises key strategies used by public, private, and hybrid institutions. It outlines their respective goals, tools, maturity levels, and implications for governance.

Table 3. Forecast of key indicators for 2025 (summarised)

Institutional type	Strategic objective	Key digital instruments	Digital maturity	Governance implications
Governmental	Improve service delivery	E-government portals, AI in public services	Medium–High	Efficiency gains, data centralisation risks
Regulatory agencies	Monitor compliance in digital markets	Algorithmic audits, digital sandboxes	Low–Medium	Reactive regulation, lag in oversight
Central banks	Maintain monetary policy in fintech era	Central Bank Digital Currency (CBDCs), blockchain analytics	Medium	Financial inclusion, cyber risk exposure

Continued Table 3

Institutional type	Strategic objective	Key digital instruments	Digital maturity	Governance implications
Local authorities	Develop smart city infrastructure	Internet of Things (IoT) networks, digital urban planning	Medium	Improved planning, surveillance trade-offs
Large enterprises	Enhance consumer engagement	Predictive analytics, User Experience (UX) personalisation	High	Competitive advantage, behavioral manipulation concerns
SMEs	Scale operations and markets	E-commerce platforms, cloud Enterprise Resource Planning (ERP)	Low–Medium	Increased access, risk of dependency on digital giants
Universities	Digitalise education and research delivery	Learning Management System (LMS), Massive Open Online Course (MOOCs), virtual labs	Medium	Broadened access, uneven digital readiness
Civil society orgs	Shape digital governance and advocacy	Online campaigns, interactive policy tools	Low–Medium	Broader engagement, platform dependency risks

Source: developed by the authors based on The digital economy and society index (DESI) (n.d.), S. Kergroach (2021), J. Xu & W. Li (2022), OECD digital government index (2023), UN E-government survey 2024 (2024), A.A. Vărzaru & C.G. Bocean (2024), O. Balan *et al*. (2024)

This typology demonstrates that institutions in the digital economy are no longer limited to adopting tools – they are increasingly shaped by the architecture, incentives, and feedback loops of digital environments. Strategic flexibility is emerging as a critical institutional asset, particularly in contexts where volatility, uncertainty, complexity, and ambiguity (VUCA) dominate decision-making landscapes. Institutions that fail to integrate digital strategy holistically may fall behind not only in service delivery or competitiveness but also in maintaining legitimacy and social trust. This is especially relevant in democracies, where expectations of transparency and accountability are rising alongside the speed of digital governance. To remain resilient, institutions must develop mechanisms for reflexive governance including the ability to monitor performance, recalibrate strategy in real time, and incorporate stakeholder feedback across digital channels. The increasing use of dashboards, public performance indicators, and citizen-reporting platforms signals a shift toward strategic transparency, though the effectiveness of these tools often depends on digital literacy and access equity among users. Cross-sectoral collaboration is becoming essential. Strategic coordination between ministries, tech companies, universities, and civil society is vital to design inclusive and future-proof institutional frameworks. Hybrid governance structures – such as digital policy labs, inter-ministerial AI councils, or multi-stakeholder blockchain initiatives–offer promising models for navigating the institutional complexity of the digital era.

The final analytical dimension of institutional shifts in the digital economy is the phenomenon of reflexivity – the capacity of institutions and agents to co-evolve in response to each other. In contrast to traditional institutional settings, where structures were relatively rigid and behavioural feedback loops slow, digital ecosystems foster rapid cycles of mutual adaptation. In this environment, institutions do not merely shape behaviour; they are shaped by it in real time. This co-evolutionary process is particularly visible in platform economies, where user behaviours influence algorithmic updates, and in turn, algorithmic configurations alter user behaviour. This feedback loop creates a highly dynamic environment in which institutions must simultaneously regulate and adapt. For instance, changes in user sentiment toward data privacy can quickly create new transparency norms, influencing both platform architecture and regulatory responses. Moreover, digital institutions are increasingly experimental. Beta releases, sandbox environments, and agile regulatory pilots are replacing top-down reforms. Institutions test solutions iteratively, often guided by behavioural data rather than abstract models. This accelerates innovation but raises ethical concerns about experimentation without full accountability or informed consent. A noteworthy perspective for analysing this reflexivity is the model of institutional co-evolution, presented in Table 4. It outlines the interactive relationship between institutional changes, behavioural responses, and adaptive governance strategies.

Table 4. Co-evolutionary dynamics of institutional change and economic behaviour in the digital economy

Phase of co-evolution	Institutional change	Behavioural response	Strategic institutional reaction
Digital integration	Introduction of algorithmic rules and interface logic	Initial confusion, exploratory behaviour	Interface redesign, user onboarding
Datafication of interaction	Behavioural tracking and personalisation	Trust concerns, avoidance or strategic adaptation	Implementation of transparency policies, user control
Behavioural feedback loops	Real-time behavioural modulation via nudges and defaults	Increased dependency, emotional decision-making	Ethical design principles, soft-regulation mechanisms

Continued Table 4

Phase of co-evolution	Institutional change	Behavioural response	Strategic institutional reaction
Algorithmic governance	Automation of compliance, pricing, and access mechanisms	Strategic gaming by users, discontent with fairness	Algorithm audits, participatory policy development
Public contestation	Institutional backlash or legitimacy crises	Civic mobilisation, alternative platform creation	Institutional reform, multistakeholder governance models
Reflexive stabilisation	Responsive adaptation of institutional logic	Rebuilding of trust, normalised interaction patterns	Continuous performance monitoring, adaptive strategy

Source: compiled by the authors

The table below demonstrates that reflexivity is not linear – it involves oscillations, reversals, and hybridisation of institutional forms. Furthermore, users are not passive recipients of institutional designs; they are active co-creators. This challenges classical economic assumptions of top-down institutional control and suggests the need for more participatory, transparent, and dynamic governance frameworks. A growing body of literature supports this shift toward participatory institutionalism. Initiatives such as algorithmic transparency dashboards, open-source policy labs, and collaborative AI ethics frameworks reflect a new norm: institutions are expected to engage with stakeholders not only before policy implementation but continuously throughout the policy life cycle.

However, co-evolution is not always positive or balanced. In cases of platform monopolisation, reflexivity can be suppressed. When institutions lack alternatives or market competition is insufficient, user behaviour may adapt under constraint rather than agency, leading to suboptimal equilibria characterised by addiction, exploitation, or democratic erosion. This necessitates a renewed emphasis on institutional pluralism, redundancy, and regulatory flexibility to prevent lock-in effects and ensure future adaptability. Furthermore, institutional co-evolution in transitional economies, such as Ukraine, faces particular challenges. Institutional fragility, uneven digital literacy, and infrastructural gaps can distort feedback loops and produce perverse behavioural outcomes, such as reliance on informal digital exchanges or resistance to formal e-governance systems. Strategic policy design must therefore account for asymmetries in feedback capacity and proactively strengthen institutional listening mechanisms, ranging from civic tech platforms to automated grievance redressal systems.

The reflexivity of the digital economy also presents an opportunity for evidence-based governance. With access to granular behavioural data, institutions can better demonstrate the real-world impacts of their policies and recalibrate accordingly. This demands not only technical capacity but also ethical guardrails, public trust, and a commitment to data justice – ensuring that data is used in ways that promote fairness, inclusion, and empowerment. In conclusion, the institutional shifts induced by digitalisation are not unidirectional or deterministic. They emerge through complex, recursive interactions between design, behaviour, feedback, and strategy. Recognising the co-evolutionary nature of institutional change in the digital economy is essential for crafting governance systems that are both robust and responsive, enabling societies to harness digital transformation without compromising equity, agency, or legitimacy.

Institutional transformation in the digital economy has emerged as a multifaceted process involving structural adaptation, strategic reorientation, and shifts in behavioural logic. The study results resonate with the broader scholarly consensus that digitalisation necessitates institutional flexibility, cognitive recalibration, and regulatory innovation. Numerous studies confirm that digital environments reconfigure institutional settings and demand behavioural sensitivity in policy responses. For instance, the analysis of small enterprise ecosystems under digitalisation has revealed a consistent emphasis on innovation-friendly structures and adaptive institutional frameworks. This is supported by the findings of V.S. Bilozubenko & R.O. Horodnytskyi (2021), arguing that institutional flexibility is essential for sustaining entrepreneurial activity in digital contexts. Their observations align with the present study's identification of reflexive governance and behavioural nudging as central to economic agency.

The role of algorithmic mechanisms in shaping institutional influence was highlighted in research by T. Teslenko (2021), where digital competitiveness was noted to depend on overcoming institutional inertia. This study expanded on this premise by analysing feedback loops and interface design as mechanisms that extend or constrain behavioural choice. Similarly, the nonlinear relationship between digital infrastructure and innovation outcomes, demonstrated in the threshold model developed by J. Xu & W. Li (2022), reinforces the importance of contextual variables, such as institutional maturity and governance quality, which are central to the study. Empirical comparisons of national contexts suggest that institutional responses to digitalisation differ considerably. The present study's inclusion of both Ukraine and China illustrated this divergence. For instance, X. Ma *et al.* (2024) demonstrated that China's digital economy supports sustainable development through centralised policy instruments, while Ukraine's trajectory, as described by N. Kravchuk *et al.* (2023) and O. Kalinin (2024), reflected a post-crisis recovery model, where digital tools provide institutional capacity and innovation resilience.

In the public sector, institutional modernisation through digital tools has been framed as both an opportunity and a challenge. O. Yevtushenko (2024) presented digitalisation as a driver of efficiency in public administration,

yet also noted risks of opacity and ethical dilemmas – issues also addressed in this study through the lens of algorithmic accountability and reduced user agency. Similarly, I. Dunayev & M. Kovalenko (2022) discussed the evolution of platform regulation, underscoring the difficulty of aligning traditional oversight mechanisms with the decentralised, real-time nature of digital environments.

Behavioural governance, a key focus of the study, has found increasing recognition in institutional research. The framework developed by V. Kozub *et al.* (2024) explicitly addressed how innovation logic is embedded into institutional design, which parallels this study's analysis of nudging architectures and digital heuristics. However, while their study addressed organisational strategy, this article extended the analysis to cognitive mechanisms such as affective bias, status quo preference, and compulsive platform usage. The challenge of regulating digital markets has also been discussed in global and regional policy contexts. S. Kergroach (2021), writing within the OECD framework, emphasised that digital transformation among SMEs requires responsive and anticipatory governance. This aligns with the behavioural risks explored in this study, including lock-in effects and reputational dependency. At the same time, the broader concern with digital platform dominance and user control mechanisms was addressed by Z. Hong & K. Xiao (2024) in an analysis of blockchain and AI in sustainability, contributing a technical but strategically relevant perspective. Strategic agility in large firms, highlighted by A.A. Vărzaru & C.G. Bocean (2024), links digital investment with organisational performance. Their findings are consistent with this study's observations on interface-led behaviour and the co-evolution of user expectations and institutional design. Similarly, urban and spatial responses to digitalisation, such as those discussed by C. Çetin Er & O. Özcan (2022), reveal how digital tools reshape public space, which in this article is further connected to behavioural asymmetry and access inequality.

O. Yushkevych *et al.* (2024) proposed a systemic model integrating infrastructure with behavioural norms – a position that complements this article's call for reflexive institutions capable of continuous performance monitoring and adaptive strategy. Their macro-level approach was here extended through micro-level analysis of decision-making environments and user path dependency. The implications for education and civil society were also addressed. G. Lozovska & R. Znachek (2024) analysed neuromarketing and behavioural framing in social media, which adds nuance to this study's focus on affective heuristics and parasocial interactions. Contributions by O.L. Galtsova (2021) and L. Antoniuk *et al.* (2021) further contextualised how digital transformation intersects with human capital and institutional competencies, reinforcing the role of behaviourally informed education in digital environments. In addition, T.Ya. Gubernat *et al.* (2024) identified institutional gaps in SME development through digitalisation, complementing this article's typology of strategic vulnerabilities. V.V. Kozlov & T.V. Tomashevska (2021) presented early risks of digital inequality which informed this study's concern with behavioural inclusion and systemic legitimacy.

The convergence of behavioural design and institutional foresight is particularly relevant in post-war or recovery economies. The perspectives offered by N.M. Hurzhii *et al.* (2024) is a notable perspective of how consumer behaviour and market strategy evolve in digital conditions. Similarly, Q. Wang *et al.* (2024) examined regional resilience as a function of digital investment, supporting the claim that institutional co-evolution drives behavioural stability. According to D.S. Ismoilova (2023), the digital transformation of the economy is viewed as a key driver of accelerated global development, particularly through the enhancement of infrastructure, digital literacy, and access to information technologies. The study emphasised that the implementation of digital tools contributes to reducing structural disparities between countries, strengthening national competitiveness, and creating new entrepreneurial opportunities. This perspective aligns with the present study's focus on the adaptation of innovation as a prerequisite for sustained growth, especially in the context of economic recovery following periods of crisis. Lastly, the structural implications of digitalisation, including its cognitive, legal, and strategic dimensions, were summarised in collective works such as those by O.L. Galtsova (2021) and L. Antoniuk *et al.* (2021), which were foundational for this article's theoretical base. The results of the current research corroborate and extend these frameworks by focusing not only on macro-level changes but also on the individual-level processes of perception, decision-making, and institutional interaction. The literature reviewed affirms the core propositions of this study: that digital institutional transformation is both a structural and behavioural process; that effective governance in digital environments requires a synthesis of economic, psychological, and technological insights; and that future policy must internalise user behaviour as a central variable in institutional design. This integrated approach provides a more holistic context for analysis of governance under digital conditions and offers actionable pathways for institutional resilience and strategic foresight.

Conclusions

The study explored institutional shifts in the digital economy, emphasising their behavioural and strategic implications for economic governance. The findings demonstrate that digitalisation is not only a technological phenomenon but a deep institutional transformation that redefines the logic, structure, and behaviour of economic coordination systems. The transition from hierarchical, legally centred institutions to decentralised, algorithmically mediated structures has altered how regulation, compliance, and accountability function in the digital economy. Digital platforms and emerging organisational forms such as DAOs increasingly assume quasi-regulatory roles, shaping market dynamics through code, interface design, and behavioural incentives. These transformations have introduced new forms of "soft regulation" and "invisible governance" that

operate through real-time feedback loops, social influence mechanisms, and personalised digital environments.

The behavioural effects of these shifts are profound. Economic agents navigate institutional environments in which their decisions are shaped by nudges, gamification, social comparison, and algorithmic filtering. As a result, preferences are increasingly endogenous, constructed within digital architectures that reward immediacy, conformity, and attention. The study also highlighted the emergence of behavioural opacity, which impedes rational agency and strategic foresight. Strategically, institutions must evolve to remain legitimate, resilient, and effective in digital ecosystems. This includes adopting tools of reflexive governance, developing data literacy, fostering participatory policy-making, and maintaining cross-sectoral collaboration. The co-evolutionary nature of institutional change in the digital economy demands continuous feedback mechanisms, pluralistic governance models, and ethical safeguards to balance innovation with inclusivity.

The research contributed to institutional and behavioural economic theory by integrating digital-era dynamics into the analysis of governance transformations. It provided a structured typology of institutional responses and behavioural effects that can be used for further empirical validation, policy design, and academic debate. Prospects for future research include the development of metrics to assess algorithmic accountability, the exploration of institutional divergence across digital sectors (e.g., finance vs. education), and the investigation of long-term behavioural outcomes in digital regulatory environments. A more nuanced notion of these aspects can be used in the design of governance systems that are not only technologically robust but also socially responsive and ethically sound.

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Інституційні зрушення в цифровій економіці: поведінкові та стратегічні імплікації для економічного управління

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Анотація. Ця стаття досліджувала інституційні трансформації, зумовлені цифровою економікою, зі підвищеною увагою до їхніх поведінкових та стратегічних наслідків для економічного врядування. Метою дослідження було класифікувати нові інституційні форми, які виникли в межах цифрових екосистем, і проаналізувати їхній вплив на координацію, дотримання норм і прийняття рішень економічними агентами. Було розроблено концептуальну рамку, що базувалася на контент-аналізі, порівняльному інституційному огляді та теоретичному синтезі, які здійснено на основі актуальних академічних та політичних джерел. Результати показали, що традиційні моделі регулювання, засновані на ієрархічній владі, дедалі більше замінювались алгоритмічним врядуванням, платформеним регулюванням і поведінковими механізмами, такими як підштовхування та репутаційне оцінювання. Ці механізми трансформували економічну поведінку шляхом стимулювання конформізму, скорочення циклів прийняття рішень і зміни формування переваг. Стратегічна інституційна відповідь включала впровадження цифрових інструментів, таких як платформи електронного урядування, алгоритмічний аудит і інформаційні панелі ефективності. Державні та приватні інституції продемонстрували різні рівні цифрової зрілості, що призводило до асиметричних результатів у сфері підзвітності, інклюзивності та довіри. Було розроблено типологію інституційних стратегій і поведінкових ефектів, щоб проілюструвати структурні та когнітивні виміри цифрової інституціоналізації. У дослідженні також було вивчено коеволюційні динаміки, які показують, як інституції та поведінка взаємно адаптуються через зворотні зв'язки й рефлексивне врядування. Було виявлено такі ключові риси цифрового середовища, як поведінкова непрозорість, прискорення ухвалення рішень і емоційні евристики. Практичне значення дослідження полягає у його актуальності для політиків, розробників цифрових систем і реформаторів інституцій. Результати становлять основу для розуміння того, як врядування може залишатися ефективним, справедливим і легітимним у технологічно посередницьких системах. Інтегруючи інституційну теорію з поведінковою економікою, стаття сприяє глибшому розумінню адаптації врядування в умовах стрімкої цифрової трансформації

Ключові слова: алгоритмічне управління; поведінкові ефекти; інституційна трансформація; регулювання платформ; цифрова координація; адаптація політики; економічна агентність