

Institutional maturity of state authority bodies as a prerequisite for the successful implementation of KPI: author's assessment model and development directions for Ukraine

Hryhorii Dziuba ¹

¹ *Postgraduate student*
Zhytomyr State Polytechnic University

Abstract

The article focuses on implementing key performance indicators (KPIs) in Ukrainian public authorities amid wartime conditions and European integration. The starting point is a «pilot» legislative case—the draft amendments to the Customs Code on assessing the efficiency and effectiveness of customs authorities (first reading on 17 December 2025), which for the first time at the statutory level sets requirements for indicators and proposes specific KPIs. The article argues that the value of KPIs depends less on the precision of their wording than on an institution's maturity: its ability to set objectives in the logic of policies and services, sustain the «planning–monitoring–adjustment» cycle through data and analytics, ensure process continuity, accountability, and organizational learning. The argument builds on a comparative analysis of OECD and World Bank approaches, a synthesis of maturity/capability models, and an assessment of the risks of formalization and «gaming the metrics». The author proposes a five-level model of institutional maturity for KPI implementation (from a formal-declarative level to adaptive, dynamic KPIs) that integrates results accountability, process discipline, data governance and analytics, digital integration, and a culture of learning and adaptability. A diagnostic methodology is developed across five domains (digital infrastructure, quality of management data, staff competencies; integration of KPIs into management cycles, sustainability of strategic planning), with evidence-gathering tools including surveys, interviews, document and regulatory analysis, and audits of processes and IT systems. A demonstrative application using examples from customs, the tax service, CNAPs, and regulatory bodies identifies typical barriers to progressing between levels (data culture, staffing shortages, a fragmented IT landscape, and gaps between strategy and budgeting). The article concludes that increasing institutional maturity is a prerequisite for valid KPIs and their real influence on decisions and resource allocation, when the model can serve as a diagnostic tool and as a basis for roadmaps to strengthen institutional capacity.

Keywords: institutional capacity; institutional maturity; KPI; performance management; data culture; digital integration; evidence-based policy; public administration.

Corresponding author:

¹ *E-mail:* grisadzuba@gmail.com

ORCID ID: 0000-0003-1476-184X

© 2025 H.Dziuba

doi: [https://doi.org/10.26642/ppa-2025-2\(12\)-19-24](https://doi.org/10.26642/ppa-2025-2(12)-19-24)

1. Introduction

The implementation of results-based management and KPI systems is one of the most widespread directions of public administration modernization worldwide. At the same time, the practical outcomes of such reforms vary significantly depending on the institutional context. On the one hand, where stable administrative processes, a data-driven culture, and accountability for results are in place, KPIs become a tool for enhancing transparency and the quality of managerial decision-making. Conversely, in conditions of weak institutions, KPIs tend to become merely formal instruments, fail to foster managerial learning, and may generate measurement dysfunctions (including indicator manipulation and a shift of focus from outcomes to reporting). In the current context, institutional incapacity of public authorities represents one of the key obstacles to the effective use of KPIs in Ukraine, particularly given the needs of post-war recovery [16, p. 6], growing public expectations regarding service delivery and accountability, as well as the country's European integration commitments in the field of good governance.

2. Literature review

Research by M. Kaur et al. frames KPI-based performance management as part of governments' innovative capacity and notes that KPIs are used to set priorities and expected results, detect deviations through monitoring, reinforce accountability and transparency, and drive learning and improvement of institutional processes.

At the same time, international governance and organisational-quality approaches treat performance management as a continuous cycle of planning, monitoring, evaluation and correction, stressing that measurement must be connected to managerial decisions rather than reduced to reporting and statistics.

The literature also highlights «measurement dysfunctions» (including goal displacement and manipulation risks) that are particularly acute in the public sector, which is why recommended safeguards include transparency of methodologies, independent data auditing, clear allocation of responsibilities, and mechanisms for reviewing indicators.

In the digital-government strand, OECD guidance treats data as a strategic asset and emphasizes that effective KPIs depend on data ownership, metadata and quality control, while the GovTech maturity logic points to shared digital infrastructure and interoperability as prerequisites for scalable performance management.

Taken together, these sources imply that institutional maturity - rather than the mere existence of indicators - determines whether KPIs influence decisions and resources or remain a formal exercise, which underpins the need for an operational diagnostic model tailored to Ukrainian public authorities in wartime and EU-integration conditions.

3. The identification of previously unresolved issues and the formulation of research hypotheses

The issue of measuring the effectiveness of governance through the introduction of key performance indicators (KPIs) has gained particular relevance against the backdrop of Russia's military aggression against Ukraine and ongoing European integration processes. In this context, extensive discussions are taking place regarding the specific approach to implementing such indicators within Ukraine's public authorities. The adoption in the first reading on 17 December 2025 of the Draft Law «On Amendments to the Customs Code of Ukraine regarding the Assessment of the Efficiency and Effectiveness of the Activities of Customs Authorities» can be considered a «pilot» legislative attempt at such implementation. Although there have been previous efforts to introduce KPIs in Ukraine, this draft law is the first to (1) establish requirements for the indicators themselves and (2) propose specific KPIs for the customs administration at the level of law [24].

These innovations are undoubtedly progressive for Ukrainian public governance. However, they simultaneously raise the question of the institutional maturity of public authorities (as well as local self-government bodies) to apply KPIs in a substantive, rather than purely formal or declarative, manner. Accordingly, the objective of this study is to develop an original model of institutional maturity of public authorities required for the successful implementation of KPIs, as well as to propose a methodology for its assessment and outline practical pathways for its development in Ukraine.

4. Purpose, objectives and methods of the study

The purpose of the study is to develop an original model of institutional maturity of Ukrainian public authorities required for successful KPI implementation and to propose a methodology for assessing such maturity, using the 17 December 2025 first-reading draft amendments to the Customs Code on customs KPIs as a pilot legislative case. To achieve this purpose, the study synthesizes and «transfers» international maturity/capability approaches (including OECD and World Bank perspectives) into a five-level maturity model while explicitly accounting for risks of formalization and «gaming the metrics».

The methodological approach combines comparative and conceptual analysis with model-building, followed by operationalization through a diagnostic framework across five domains and evidence sources. Empirical evidence is collected via document and regulatory analysis, and audits of processes and IT systems, and the model is proposed for Ukrainian government bodies to identify typical barriers to moving between maturity levels.

5. Main results

The concept of institutional maturity should be distinguished from related categories such as «organizational capacity», «institutional capacity», «administrative capacity», and «managerial maturity». While capacity primarily refers to the availability of resources and competencies (e.g. human, financial, and technological), maturity reflects the degree of systematicity and reproducibility of their application in processes aimed at achieving results. Within the framework of this study, it has been determined that institutional maturity of a public authority in the context of KPIs can be interpreted as an integrated characteristic of an agency's ability to:

- formulate objectives and results within the logic of public policies and services;
- support the planning–monitoring–adjustment cycle with data and analytics;
- ensure the continuity of managerial processes regardless of personnel changes;
- guarantee accountability and organizational learning based on measurement.

In practical terms, institutional maturity manifests itself through such features as existence of formalized procedures and processes, clearly defined roles and responsibilities (including data owners, process owners, and KPI owners), as well as a culture of data use characterized by a willingness to question assumptions, acknowledge errors, and adjust actions accordingly.

Thus, maturity is not merely a technical but rather a managerial and institutional phenomenon, as it encompasses regulatory frameworks, organizational design, human resource competencies, digital infrastructure, and analytical practices [10, p. 18].

The role of institutional maturity in effective public administration

Performance management in the public sector is a cyclical process that includes not only goal setting and planning, but also monitoring, evaluation, and correction of approaches after analysing previous mistakes [11, p. 6].

International organisations (in particular the OECD in the field of programme budgeting) emphasise that the measurement function should be inextricably linked to management decisions and not reduced to reporting and statistics [4, p. 4]. Institutional maturity determines the ability of an authority to maintain this cycle over time, i.e. to ensure the consistency of procedures [22; 23], data quality, budget integration, risk management and management accountability [7, p. 86]. From our perspective, in the absence of such institutional maturity, the mere existence of KPI will have no impact on changing management practices.

Maturity is also linked to the problem of ‘measurement dysfunctions,’ which, for example, in the private sector results in the substitution of indicators for goals. In the public sector, these risks are exacerbated by (1) the habit of having a large number of bureaucratic procedures that are performed formally and (2) political ambitions that may not correlate with the established strategic goals for which KPIs are used.

Therefore, improving institutional maturity should include not only technical improvements to the CPE, but also management safeguards such as:

- transparency of methodologies,
- independent data auditing [11, p. 81; 15],
- distribution of responsibilities,
- mechanisms for reviewing indicators, and a balance between performance and compliance with good governance procedures.

Based on an analysis of materials related to KPIs in the public sector, the following main functions of this mechanism in public administration can be formulated:

- setting priorities and expected results [17, p. 11],
- monitoring performance indicators and early detection of deviations [17, p. 10],
- accountability and transparency [6, p. 35],
- training and improvement of institutional policies/processes [17, p. 16].

Successful performance of these functions requires a certain minimum level of institutional maturity. In particular, before defining key indicators, an institution must clearly understand its strategic mission and the resources available to fulfil that mission.

Based on this, it is already possible to define priorities and expected results from the application of KPIs. Otherwise, the formal implementation of KPIs will be reduced to reporting on the achievement of indicators, which will distort the very essence of the mechanism.

In the context of a digital state, the dependence of KPIs on capabilities is even more pronounced. The spread of data exchange infrastructure between registries and information systems, for example, through the national system of electronic interaction of state electronic information resources, increases the potential for creating reliable KPIs based on transactional data rather than formal reporting [7, p. 9].

However, the mere existence of digital infrastructure does not guarantee the effective use of KPIs if the data has no owners, is not described by metadata, does not undergo quality control, and is not integrated into the decision-making process [3, p. 19].

Key aspects of insufficient institutional maturity of Ukrainian state bodies

Based on analysed sources, we can determine that a significant systemic obstacle may be insufficient data processing culture, manifested in a poor understanding of sources, limitations and quality of data management, as well as low readiness to make management decisions based on current information.

The OECD considers data to be a strategic asset that requires lifecycle management, roles of responsibility, and ethical standards of use [2, p. 9]. In the Ukrainian context, despite the development of data processing and digital infrastructure [19; 20], the problem of data openness and its processing methodology remains [1, p. 24].

For example, according to a study by OpenDataBot [25], less than half of the open data in Ukraine meets international requirements (the openness rating is 44.21%, with the State Tax Service and the Pension Fund leading the anti-rating). In addition, there are examples of polar opposite approaches to data processing that can distort the current state of affairs, particularly with regard to average wages. The State Statistics Service publishes the average monthly salary of full-time employees based on the results of a survey of enterprises [14], while the Pension Fund calculates the average salary based on the average salary (income) from which insurance contributions are paid.

The next issue is staffing problems, which in the context of data processing manifest themselves in a shortage of data specialists and insufficient managerial capacity on the part of managers to interpret data. The OECD, in its framework for digital skills in the public sector, emphasises the need for systematic development of talent and skills, a combination of technical and managerial competencies, and institutional mechanisms for attracting and retaining specialists [2, p. 62].

For Ukraine, the problem is exacerbated by competition for personnel with the private sector and the non-governmental sector, which is not least due to the level of remuneration in the civil service. In particular, according to the monitoring of the quantitative composition of civil servants for the fourth quarter of 2024, the actual number of civil servants was 156,276, with 192,172 positions in the staffing table, and the number of vacant positions was 31,167 (i.e. about 16% of the staffing level), which creates structural barriers to the formation of stable analytical teams and data support in state bodies [26].

The third feature is the fragmentation of the IT landscape, which manifests itself in numerous departmental systems that have historically developed autonomously, the lack of a unified approach to data architecture and integration, and the duplication of functions.

The World Bank in GTMI considers a shared digital infrastructure to be the core of government digital transformation, without which it is difficult to ensure scalable performance management [8].

Although Ukraine has made significant progress in creating platforms for interdepartmental data exchange [9, p. 125; 10, p. 27] (for example, the Trembita system in the fourth quarter of 2024 provided about 1.95 billion transactions and brought together hundreds of participants and electronic information resources [18]), uneven connectivity and varying data quality in sources remain factors that limit the creation of unified KPI dashboards and the comparability of indicators between agencies and territories.

Apart from that there is a gap between strategic documents and the actual management cycle. Formally, most agencies have strategies, action plans or programme documents, but the link between ‘goals - resources - processes - results - correction’ is often weak. In such a paradigm, strategic KPIs would be defined for reporting purposes rather than as a management tool.

Thus, the lack of regular strategy reviews, weak links to the budget process and insufficient analytical impact assessment mean that KPIs are unable to reflect the dynamics of the environment and will not support the body's adaptability to necessary changes and process reviews.

In view of the above, we consider it necessary to propose for consideration a model designed to increase the institutional maturity of Ukrainian public authorities for the further effective use of KPIs.

Author's model of institutional maturity levels for the implementation of the KPI

The proposed model was developed as a tool for ‘transferring’ the logic of international maturity models into performance management tasks in Ukrainian government agencies.

Unlike approaches that assess only the maturity of processes or digitalisation, the model combines five interrelated dimensions

- management and accountability for results,
- procedural discipline,
- data management and analytics,
- digital integration,
- learning culture and adaptability [7, p. 92].

Table 1 below was created by the author based on the analysed sources. The model described has five levels, each of which defines the typical characteristics of the body and the maturity of the KPI cycle.

Table 1
Five-level model of institutional maturity for implementing the KPIs

Level	Key characteristics of the body	Typical practices of KPIs	Main risks	What is needed for transition
1	2	3	4	5
1. Formal and declarative	KPIs exist nominally, processes are not standardised, data is fragmentary and unreliable, responsibility is vague	Formal reporting; manual spreadsheets; lack of regular analysis	Falsification of results, manipulation of data	Definition of functions and results, minimum regulations, inventory of data and systems, appointment of persons responsible for KPIs
2. Procedural coordination	KPIs are tied to individual processes, partial automation [21], basic analytics, roles of responsibility appear	Individual KPI dashboards, monitoring by departments, local process improvements	Optimisation «within the process» without strategic coordination, different methodologies across departments	Uniform definitions of indicators, minimum data quality standards, data integration between key systems, staff training

End of the of table 1

1	2	3	4	5
3. Analytical capability (Data-Driven)	Data is used systematically, dashboards are created, analytical functions are performed	Regular reviews of KPIs, use of analytics to identify causes of deviations, publication of some indicators	Dependence on «analytics islands», risk of technocracy without managerial change	Aligning KPIs with strategy, formalising the review cycle, integrating KPIs with the budget
4. Integrated performance management	KPIs are aligned with strategic goals, processes and results, the PDCA cycle is in place, accountability mechanisms are developed	KPIs in planning, budgeting, programme evaluation, regular performance reviews, policy adjustments	Risk of bureaucratisation and overload with indicators, conflicts between objectives	Optimisation of the KPIs portfolio [13], integration with risk management, preparation for adaptive KPIs and advanced analytics
5. Adaptive KPI system (Dynamic KPIs, AI/ML)	KPIs are reviewed based on analytics; forecasting is used; subjectivity is minimised; ethical and legal governance of data and algorithms is in place	Automated alerts; leading indicators; simulations; AI/ML for pattern and risk detection	Algorithmic bias; model opacity; cyber risks	Data governance, MLOps, algorithm auditing, regulatory rules for updating KPIs, institutional safeguards, and transparency

The essential difference between the proposed model is that maturity levels are determined not by the «presence of KPIs» but by the degree of KPI integration into the performance and data management cycle.

In other words, the transition between levels occurs when indicators begin to influence decisions and resources, rather than simply existing in reports. The logic of the levels also takes into account digital development — from manual reporting to the use of data and predictive analytics, which is particularly relevant in the context of the development of GovTech and government digital platforms.

Methodology for assessing institutional maturity. Key assessment indicators

To operationalise institutional maturity, it is proposed to assess the body according to five categories, each of which is detailed by a set of indicators. The categories are selected to reflect the key prerequisites for the effective use of KPIs and to ensure their measurability.

The content of categories and examples of indicators are presented in Table 2 (created by the author based on the analysed sources).

Table 2
Categories for assessing institutional maturity and examples of indicators

Categories	Examples of indicators	Typical sources of evidence
Digital infrastructure and integration	availability of integrated data architecture, connection to interdepartmental exchange	IS audit, system registry, technical documentation, integration/transaction data
Quality and availability of management data	formalised definitions of indicators and data, data owners, metadata, quality control, data accessibility for analytics, open data	data governance policies, data catalogues, quality control protocols, open data portal
Staff competencies and analytical function	percentage of staff with basic data literacy, presence of an analytics department, training programmes, decision support tools	personnel documents, training programmes, survey results, description of department functions
Integration of KPI into management cycles	regularity of KPI review, use of KPIs in planning, budgeting, personnel management, correction mechanisms, internal control	meeting minutes, reports, budget/strategic cycle documents
Strategic planning and sustainability [12, c. 3]	quality of strategic documents, consistency of goals and indicators, stability over time, adaptation to changes in the environment, risk orientation	strategies, implementation reports, external evaluations, risk registers

The presented assessment model provides a clear understanding of how effectively KPIs are integrated into the activities of a public authority on the one hand, and on the other hand, determines the maturity of the institution in terms of KPI use.

The combination of technological, organisational and managerial dimensions allows for an assessment of the balance of institutional development and determines at which stage limitations arise for the effective application of KPIs.

Thus, the table provides an analytical basis for assessing institutional maturity and preparing public authorities for the practical application of KPIs.

6. Concluding remarks

The article substantiates that institutional maturity of public authorities is a basic prerequisite for successful implementation of KPIs. It shows that under conditions of low maturity, KPIs become a formality and do not influence management decisions, while increased maturity ensures the validity of indicators, reliability of data and integration into the performance management cycle. Based on an analysis of international maturity models and capability approaches, the author has developed a five-level

model of institutional maturity for KPI implementation and a methodology for its assessment across five domains. Demonstrative testing of the model confirmed the practical applicability of the level logic and allowed us to identify the barriers to transition between them for different types of bodies. The proposed recommendations should ensure the transition from «declarative KPIs» to integrated performance management and, in the long term, to adaptive KPIs supported by modern analytics. Further research should focus on developing detailed measurement tools, conducting comprehensive institutional audits in selected agencies, and empirically testing the relationship between maturity level and public service quality indicators.

References:

1. «The OECD Digital Government Policy Framework: Six dimensions of a Digital Government», *OECD*, [Online], available at: <http://dx.doi.org/10.1787/f64fed2a-en>
2. «The Path to Becoming a Data-Driven Public Sector», *OECD*, [Online], available at: <https://doi.org/10.1787/059814a7-en>
3. «The OECD Framework for Digital Talent and Skills in the Public Sector», *OECD*, [Online], available at: <https://dx.doi.org/10.1787/4e7c3f58-en>
4. «OECD performance budgeting framework», *OECD*, [Online], available at: [https://one.oecd.org/document/GOV/SBO\(2023\)1/REV1/en/pdf](https://one.oecd.org/document/GOV/SBO(2023)1/REV1/en/pdf)
5. «Public Administration in Ukraine: Assessment against the Principles of Public Administration», *SIGMA*, [Online], available at: https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/02/public-administration-in-ukraine_27a46a58/078d08d4-en.pdf
6. «SIGMA Monitoring Report on compliance with the Principles of Public Administration was presented at the meeting of the Coordination Council for Public Administration Reform», *National Agency of Ukraine on Civil Service*, [Online], available at: <https://nads.gov.ua/en/news/sigma-monitoring-report-on-compliance-with-the-principles-of-public-administration-was-presented-at-the-meeting-of-the-coordination-council-for-public-administration-reform>
7. «GovTech Maturity Index 2022 Update: Trends in Public Sector Digital Transformation», *World Bank*, [Online], available at: <https://documents1.worldbank.org/curated/en/099035001132365997/pdf/P1694820bcef0903e091160315d2050d03b.pdf>
8. «Global Program on GovTech & Public Sector Innovation: GovTech Maturity Index (GTMI)», *World Bank*, [Online], available at: <https://www.worldbank.org/en/programs/govtech/gtmi>
9. «UN E-Government Survey 2024», *United Nations*, [Online], available at: <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024>
10. «Digital Decade 2024: eGovernment Benchmark. Shaping Europe's digital future», *European Commission*, [Online], available at: <https://digital-strategy.ec.europa.eu/en/library/digital-decade-2024-egovernment-benchmark>
11. «The European model for improving public organisations through self-assessment», *EUPAN*, [Online], available at: <https://www.eupan.eu/wp-content/uploads/2019/11/20191118-CAF-2020-FINAL.pdf>
12. «Lessons from using the Common Assessment Framework (CAF)», *OECD*, [Online], available at: <https://reform-support.ec.europa.eu/system/files/2023-04/CAF%20Highlights%202.pdf>
13. «Axelos launches updated Portfolio, Programme and Project Management Maturity Model», *Axelos*, [Online], available at: <https://dev2.axelos.com/about-axelos/news/axelos-with-updated-p3m3-maturity-model>
14. «Average monthly wage of full-time employees by type of economic activity in 2025 (monthly information)», *State Statistics Service of Ukraine*, [Online], available at: <https://ks.ukrstat.gov.ua/demografichna-ta-sotsialnaya-politika/rinok-pratsi/1735-1-8-2-oplata-pratsi-ta-sotsialno-trudovi-vidnosini/989-serednja-nominalna-zarobitna-plata-za-vidami.html>
15. «CMMI Performance Solutions», *ISACA*, [Online], available at: <https://www.isaca.org/enterprise/cmmi-performance-solutions>
16. «Public governance in Ukraine: Implications of Russia's war», *OECD*, [Online], available at: https://www.oecd.org/content/dam/oecd/en/publications/reports/2022/07/public-governance-in-ukraine_7a1de7cf/c8cbf0f4-en.pdf
17. «Innovative capacity of governments: A systemic framework», *OECD*, [Online], available at: <https://doi.org/10.1787/52389006-en>
18. «Trembita.gov.ua – report for the 4th quarter of 2024», *EU4DigitalUA*, [Online], available at: <https://eu4digitalua.eu/en/news/trembita-gov-ua-zvit-za-4-j-kvartal-2024-roku/>
19. «Open Data Web Portal», *Ministry of Digital Transformation of Ukraine*, [Online], available at: <https://se.diiia.gov.ua/en/opendata>
20. «Diiia.Center project (network of modernized administrative service centres)», *Ministry of Digital Transformation of Ukraine*, [Online], available at: <https://thedigital.gov.ua/projects/regions/center>
21. «NEURC introduces automated submission of reporting for participants in the electricity market», *National Energy and Utilities Regulatory Commission*, [Online], available at: <https://www.nerc.gov.ua/news/nkrekp-zaprovadzhuye-avtomatizovane-podannya-zvitnosti-dlya-uchasnikiv-rinku-elektrichnoyi-energiyi>
22. «The Law of Ukraine «On Administrative Procedure»: what exactly has changed for citizens—explained by the Ministry of Justice of Ukraine», *Judiciary of Ukraine*, [Online], available at: <https://court.gov.ua/archive/1596693/>
23. Verkhovna Rada of Ukraine (2024), *On Administrative Procedure*, Law of Ukraine of 17.02.2022 No. 2073-IX, [Online], available at: <https://zakon.rada.gov.ua/laws/show/2073-20#Text>
24. Verkhovna Rada of Ukraine (2024), *On Amendments to the Customs Code of Ukraine regarding assessment of the efficiency and effectiveness of customs*, Draft Law of 25.12.2024 No. 12360, [Online], available at: <https://itd.rada.gov.ua/billinfo/Bills/Card/55500>
25. «The Tax Service and the Pension Fund topped the anti-rating of open data quality», *Opendatabot*, [Online], available at: <https://opendatabot.ua/analytics/opendataday-2025>
26. «CSDS-2024 Dashboard. The civil service lost 2% of men and 4.5 thousand positions», *National Agency of Ukraine on Civil Service*, [Online], available at: <https://nads.gov.ua/news/dashbord-ksds-2024-derzhavna-sluzhba-vrattyala-2-cholovikiv-i-45-tysiachi-posad>

The article was sent to the editorial board on 13.10.2025.