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## MODELING OF A SET OF QUALITATIVE PARAMETERS FOR ASSESSING THE COMPETITIVENESS OF A TRANSPORT ENTERPRISE USING GRAPHICAL-ANALYTICAL AND SCORING METHODS

*The purpose of the article is to build a system of qualitative parameters of influence and to identify their cardinal and ordinal estimates to determine the level of competitiveness of a transport enterprise based on a graph-analytical approach and linear modeling. To achieve this goal the following tasks have to be solved: determining key qualitative factors that affect the level of competitiveness of the enterprise; decomposition of the complex task of evaluating a qualitative indicator into a system of interconnected sub-goals – primary parameters of influence; formation of a set of primary evaluation indicators; development of an approach to aggregating expert assessments for primary input parameters using a graph-analytical method or scoring method and obtaining cardinal or ordinal estimates (linguistic terms) for them.*

**Methods.** *The methodological basis of the study is the fundamentals of system analysis, economic and mathematical modeling and decision-making theory. The work uses a decomposition approach to structuring the task of assessing the competitiveness of an enterprise, the method of expert assessments, the graph-analytical method of formalizing relationships between indicators, as well as a scoring method to obtain cardinal (ordinal) assessments of qualitative parameters.*

**Results and conclusions.** *The article carries out the process of identifying and structuring a set of qualitative parameters for assessing the competitiveness of a transport enterprise using graph-analytical and scoring approaches. As a result of the study, a system of qualitative indicators characterizing key aspects of the functioning of a transport enterprise was substantiated, in particular the level of organizational culture, the effectiveness of the information system and internal communications, the culture of safety, the image of the enterprise, the influence of the external environment, as well as the qualification level of personnel and the competence of management. The process of formalizing qualitative parameters presented by the authors of the article is carried out on the basis of a decomposition approach using agreed expert assessments and their further aggregation using graph-analytical or scoring methods. This approach allows for the systematic identification, formalization and aggregation of qualitative parameters of the transport enterprise's activities for further assessment of its competitiveness. The formed system of parameters creates the basis for further integrated assessment of the competitiveness of the transport enterprise using, in particular, the fuzzy logic method which makes it possible to produce an effective resulting decision based on different qualitative parameters of influence and allows making informed management decisions without taking into account all combinations of the values of the evaluation parameters which significantly simplifies such a process and minimizes its costs.*

**Key words:** enterprise competitiveness, qualitative performance indicators, expert evaluation, linguistic variables, graph-analytical modeling, scoring method, decomposition of indicators, integral evaluation.

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**Anzhelika AZAROVA,**  
Professor at the Department of  
Management and Security of  
Information Systems  
Vinnytsia National Technical University  
PhD in Technical Science, Professor  
[azarova.angelika@gmail.com](mailto:azarova.angelika@gmail.com)  
[orcid.org/0000-0003-3340-5701](https://orcid.org/0000-0003-3340-5701)

**Vitalina BORTNYUK,**  
Higher Education Applicant  
Vinnytsia National Technical University  
[vitalinapetrivna1@gmail.com](mailto:vitalinapetrivna1@gmail.com)  
[orcid.org/0009-0001-3764-2061](https://orcid.org/0009-0001-3764-2061)

**Introduction.** Under the current conditions of the development of the transport market and increased competition between carriers the problem of objective assessment of the competitiveness of transport enterprises is particular relevance. Dynamic changes in the economic environment, the development of logistics technologies, the growth of consumer requirements for the quality of transport services and the need for rapid adaptation to market changes necessitate the improvement of approaches to the analysis of the activities of transport enterprises. Now traditional methods of assessing competitiveness based mainly on quantitative financial and economic indicators are unable to fully reflect the real state of the enterprise and its development potential. At the same time, a significant impact on the formation of competitive advantages of a transport enterprise make the qualitative characteristics of its activities, in particular, the level of organizational culture, the

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effectiveness of the management system, personnel qualifications, the image of the enterprise in the market, as well as the influence of the external environment. Such factors have a complex nature which complicates their quantitative measurement and integration into the complex assessment models. Insufficient structuring of qualitative parameters and the absence of precise methods for their formalization lead to a decrease in the accuracy of integral assessment of the enterprise's competitiveness. Due to this there is a need to develop approaches that allow for the systematic identification, ordering and formalization of a set of qualitative parameters that characterize the activities of a transport enterprise. A perspective way for solving this problem is the use of a graph-analytical approach which provides the decomposition of a complex evaluation indicator into a sequence of simpler elements or the use of a scoring model for further aggregation of evaluation parameters. The use of such approaches allows for an increase in the validity of the assessment of the enterprise's competitiveness and creates the prerequisites for making more effective management decisions.

**Literature review.** Taking into account the permanent changes of the transport market the issue of increasing the accuracy of assessing the competitiveness of an enterprise is becoming particularly relevant. Traditional approaches of modeling this process are mostly based on quantitative indicators of financial and economic activity which are formed on the basis of reporting data. At the same time, the practice of operating transport enterprises shows that a significant impact on the level of their competitive positions is exerted by qualitative factors which formalization is difficult due to their intangible nature and the presence of a subjective component (Strzelczyk, 2024; Syzdykbayeva, 2025).

It should be noted that the issues of assessing the competitiveness of transport enterprises and the application of mathematical methods for analyzing transport and logistics systems are considered in the scientific works of A. Strzelczyk and S. Guze, B. Syzdykbayeva et al., P. Singhal and S. Gupta (Strzelczyk, 2024; Syzdykbayeva, 2025; Singhal, 2026). Multi-criteria evaluation methods, in particular weighted sum models and fuzzy analysis methods, are studied in the works of A. Williams (2024) and M. Chen, T. Wu, X. Mao (2025). A significant contribution to the study of increasing the competitiveness of transport enterprises was made by O. Arefieva (2023), V. Godun (2023), O. Zvyagintseva (2025), O. Bakulich (2022), V. Holodenko (2022), O. Golovchenko (2022), etc.

A special feature of the studies of the above authors is the lack of consideration of the component of qualitative parameters that have a significant impact on the level of competitiveness of the enterprise or their insufficient structuring or the absence of a clear decomposition of the primary evaluation indicators. It's necessary noting that the imperfections of the methods of their quantitative interpretation lead to the appearance of inaccuracies in complex evaluation models. As a result, the integral indicator of competitiveness can reflect not fully the real state of the enterprise and its development potential. That is why there is a need to apply an approach that allows for the systematic identification, structured presentation and formalization of a set of qualitative parameters with the possibility of their further mathematical aggregation (Singhal, 2026; Williams, 2024; Chen, 2025).

Thus, despite the significant scientific achievements in the field under study, the issue of formalization of qualitative parameters for assessing the competitiveness of transport enterprises requires further improvement.

#### **Formation of a system of parameters for assessing the competitiveness of a transport enterprise.**

The process of mathematical modeling of assessing the competitiveness of a transport enterprise is a complex applied problem that requires simultaneous consideration of a large set of input and output parameters and the construction of adequate functional mappings between them. For practical implementation, it is advisable to apply a decomposition approach: the overall goal is divided into a sequence of subgoals and the solution of each lower-level subgoal forms indicators or fixes parameters for the next level. Such a sequence ensures complete solving of the initial problem and makes it manageable.

It is advisable to group all the influence parameters into several functional blocks – aggregating functions for assessing the competitiveness of a transport enterprise that allow taking into account such aspects as marketing activities, logistics component, driver composition, financial condition of the enterprise, level of organizational culture, influence of the external environment, efficiency of management of the transport enterprise etc.

The subject of the article is the process of evaluating a set of qualitative aggregating functions  $f_1, \dots, f_3$  which will enable, together with quantitative ones, the formation of a complex and structured process of identifying the level of competitiveness of a transport enterprise. Let us consider them in detail.

Function  $f_1$  – the development of the organizational culture of the enterprise – will be determined by such qualitative indicators as the level of organizational structure –  $x_{1,1}$ , the presence of a system of

enterprise goals and strategies for achieving them –  $x_{1,2}$ , the effectiveness of the information system –  $x_{1,3}$  and internal communication between departments –  $x_{1,4}$ , safety culture –  $x_{1,5}$  (Arefieva, 2023).

The aggregating function  $f_2$  examines the impact of the external environment of the enterprise and is characterized by such qualitative indicators as the image of the enterprise –  $x_{2,1}$ , the rivalry indicator in the industry –  $x_{2,2}$ , competition among alternative modes of transportation –  $x_{2,3}$ , the impact of the regulatory and infrastructure environment –  $x_{2,4}$ , the impact of consumers –  $x_{2,5}$  (Zvyagintseva, 2025).

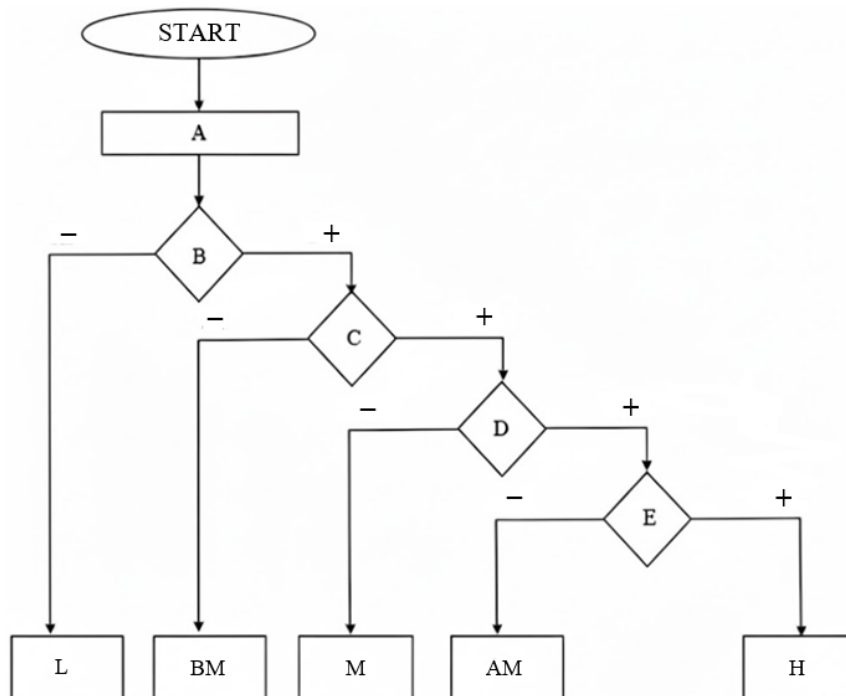
It's advisable to introduce to the aggregating function  $f_3$  – management efficiency – both qualitative indicators, such as the qualification level of personnel –  $x_{3,1}$ , management competence –  $x_{3,2}$  and quantitative indicators (Bakulich, 2022), in particular, the productivity of managerial work, the share of management costs, the share of managerial employees, management efficiency etc.

**Application of graph-analytic and scoring methods to obtain ordinal estimates of qualitative parameters of aggregating functions  $f_1, \dots, f_3$ .** Unlike quantitative parameters which cardinal estimates based on numerical values taken from primary reporting, the identifying of qualitative parameters will make with the 5 appropriate linguistic term  $t = \overline{1, T}$ ,  $T = 5$ :  $t = L$  – low level of parameter,  $t = BM$  – before middle level,  $t = M$  – middle level,  $t = AM$  – above middle level,  $t = H$  – high level of parameter. Let's use agreed expert estimates that acquire their further formalization based on the graph-analytic or scoring method.

So, the level of organizational structure –  $x_{1,1}$  is a qualitative parameter the definition of which is proposed to be carried out using the appropriate linguistic term according to the graph-scheme shown in figure 1. This approach allows us to formalize expert estimates for the set  $X'$  of primary evaluation indicators  $x'_p$ , represented by the following questions:

- A: Introduction of primary information necessary for analysis.
- B: Is there a clear hierarchy of management and centralized decision-making?
- C: Is the organizational structure able to adapt quickly to changes in the market, technology or legislation?
- D: Are there formalized internal regulations, job descriptions, work standards?
- E: Is the interaction between departments (logistics, finance, dispatch, administration) effective?

The presence of a system of enterprise goals and strategies for achieving them is a qualitative parameter  $x_{1,2}$  which definition is proposed to be carried out using appropriate linguistic terms by decomposing into a set  $X'$  the primary evaluation indicators  $x'_p$ , presented in table 1, using expert assessments and dependence (1).



**Fig. 1. Graph-scheme of evaluation of qualitative parameter of organizational structure level  $x_{1,1}$  by corresponding linguistic term,  $t = \overline{1, 5}$**

Table 1

**Assessment of the presence of a system of enterprise goals and strategies for achieving them –  $x_{1,2}$** 

Parameter name	Parameter value change range
Clarity and specificity of goals	[0–3]
Compliance of the company's goals with its mission	[0–3]
Having strategies to achieve goals	[0–4]
Realistic and achievable goals	[0–3]
Effectiveness of the monitoring and adjustment system for goals	[0–3]

$$x_{1,2} = \begin{cases} L, \text{if } \sum_{p=1}^5 x'_p \in (0;3]; \\ BM, \text{if } \sum_{p=1}^5 x'_p \in (3;6]; \\ M, \text{if } \sum_{p=1}^5 x'_p \in (6;9]; \\ AM, \text{if } \sum_{p=1}^5 x'_p \in (9;12]; \\ H, \text{if } \sum_{p=1}^5 x'_p \in (12;16]. \end{cases} \quad (1)$$

The effectiveness of the information system –  $x_{1,3}$  – is a qualitative parameter which definition will carry out using the appropriate linguistic terms by decomposition into a set  $\mathbf{X}'$  of the primary evaluation indicators  $x'_p$  (presented in table 2) using expert assessments and formula (2).

Table 2

**Indicators of evaluation of the parameter  $x_{1,3}$  – the effectiveness of the information system**

Parameter name	Parameter value change range
Data processing speed	[0–3]
Reliability and stability of work	[0–3]
Systems integration	[0–2]
User-friendly interface	[0–2]
Data security	[0–3]

$$x_{1,3} = \begin{cases} L, \text{if } \sum_{p=1}^5 x'_p \in (0;2]; \\ BM, \text{if } \sum_{p=1}^5 x'_p \in (2;5]; \\ M, \text{if } \sum_{p=1}^5 x'_p \in (5;8]; \\ AM, \text{if } \sum_{p=1}^5 x'_p \in (8;10]; \\ H, \text{if } \sum_{p=1}^5 x'_p \in (10;13]. \end{cases} \quad (2)$$

$x_{1,4}$  – The effectiveness of the internal communication system between departments (dispatchers, drivers, logisticians) is a qualitative parameter. We propose to estimate it using the appropriate linguistic terms by decomposition into a set  $X'$  of the primary evaluation indicators  $x'_p$  (presented in table 3) using expert assessments and formula (3).

Table 3

**Indicators of evaluation of the parameter  $x_{1,4}$  – the effectiveness of the internal communication system between departments**

Parameter name	Parameter value change range
Information transfer speed	[0–3]
Quality of information transfer	[0–3]
Productiveness of communication channel	[0–2]
Degree of communication between dispatchers and drivers	[0–3]
Efficiency of the coordination logistics center	[0–3]

$$x_{1,4} = \begin{cases} L, \text{if } \sum_{p=1}^5 x'_p \in (0; 2]; \\ BM, \text{if } \sum_{p=1}^5 x'_p \in (2; 5]; \\ M, \text{if } \sum_{p=1}^5 x'_p \in (5; 8]; \\ AM, \text{if } \sum_{p=1}^5 x'_p \in (8; 11]; \\ H, \text{if } \sum_{p=1}^5 x'_p \in (11; 14]. \end{cases} \quad (3)$$

Safety culture  $x_{1,5}$  is qualitative parameter that will be assessed using appropriate linguistic terms by decomposing into a set  $X'$  the primary evaluation indicators  $x'_p$ , presented in table 4, using expert assessments and formula (4).

Table 4

**Parameters for assessing safety culture**

Parameter name	Parameter value change range
Following the rules of traffic safety	[0–4]
Control of the technical condition of transport	[0–4]
Conducting accident prevention training and motivation for a safe driving culture	[0–2]

$$x_{1,5} = \begin{cases} L, \text{if } \sum_{p=1}^3 x'_p \in (0; 2]; \\ BM, \text{if } \sum_{p=1}^3 x'_p \in (2; 4]; \\ M, \text{if } \sum_{p=1}^3 x'_p \in (4; 7]; \\ AM, \text{if } \sum_{p=1}^3 x'_p \in (7; 9]; \\ H, \text{if } \sum_{p=1}^3 x'_p \in (9; 10]. \end{cases} \quad (4)$$

The image of a transport enterprise –  $x_{2.1}$  is a qualitative parameter. To assess it, we will use the linguistic terms described above. Let's decompose this parameter into a set  $X'$  of the primary evaluation indicators  $x'_p$ , presented in table 5, using expert assessments and formula (5).

Table 5

**Parameters for evaluating the image of a transport enterprise**

Parameter name	Parameter value change range
Cargo integrity	[0–3]
Adherence to transportation schedule	[0–3]
Term of operation of the enterprise	[0–3]
Market share occupied by the enterprise	[0–3]

$$x_{2.1} = \begin{cases} L, \text{if } \sum_{p=1}^4 x'_p \in (0;2]; \\ BM, \text{if } \sum_{p=1}^4 x'_p \in (2;4]; \\ M, \text{if } \sum_{p=1}^4 x'_p \in (4;8]; \\ AM, \text{if } \sum_{p=1}^4 x'_p \in (8;10]; \\ H, \text{if } \sum_{p=1}^4 x'_p \in (10;12]. \end{cases} \quad (5)$$

For qualitative parameters  $x_{2.2} - x_{2.4}$  we will use the graph-scheme shown in figure 2–4 and table 6 which allows us to formalize expert assessments regarding a set of primary input indicators.

Table 6

**Designation of blocks A, B, C, D, E, F of the graph-scheme for qualitative evaluation parameters  $x_{2.2} - x_{2.4}$**

Parameter	A	B	C	D	E	F
$xx_{2.2}$	Industry competition analysis	Does the company capture a wide segment of market including international transportation?	Does the company have a modern material and technical base?	Does the company have highly qualified staff and an individual approach to customers?	Does the company make regular investments in development?	Does the company have a positive reputation?
$xx_{2.3}$	Analysis of alternative modes of transportation	Does the trucking company have alternative modes of transportation?	Are alternative modes of transportation available to your business?	Does motor transport provide faster delivery compared to alternatives?	Is the level of infrastructure support for road transport higher than for other modes?	Is there an increase in demand for road transport compared to other modes of transport?
$xx_{2.4}$	Analysis of the impact of regulatory and infrastructure environments	Is the regulatory environment stable for the operation of a transport company?	Does state policy promote the development of the transport industry?	Is the infrastructure sufficient for effective operation?	Is there an excessive administrative burden that complicates operations?	Is the development of digital infrastructure supported?

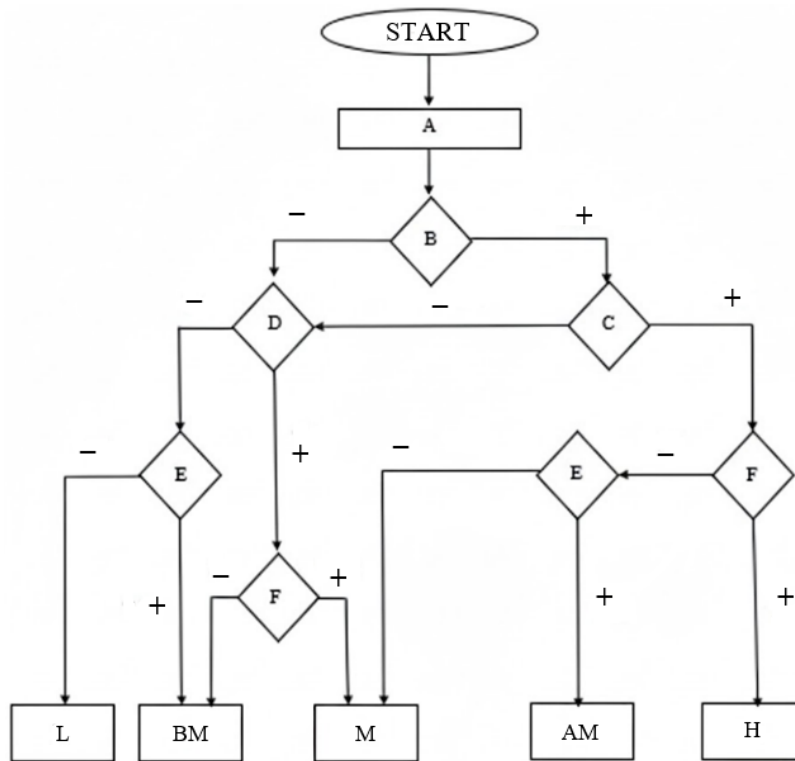


Fig. 2. Graph-scheme of the evaluation of the qualitative parameter  $x_{2,2}$  – the level of competition in the industry – by the corresponding linguistic term,  $t = \overline{1,5}$

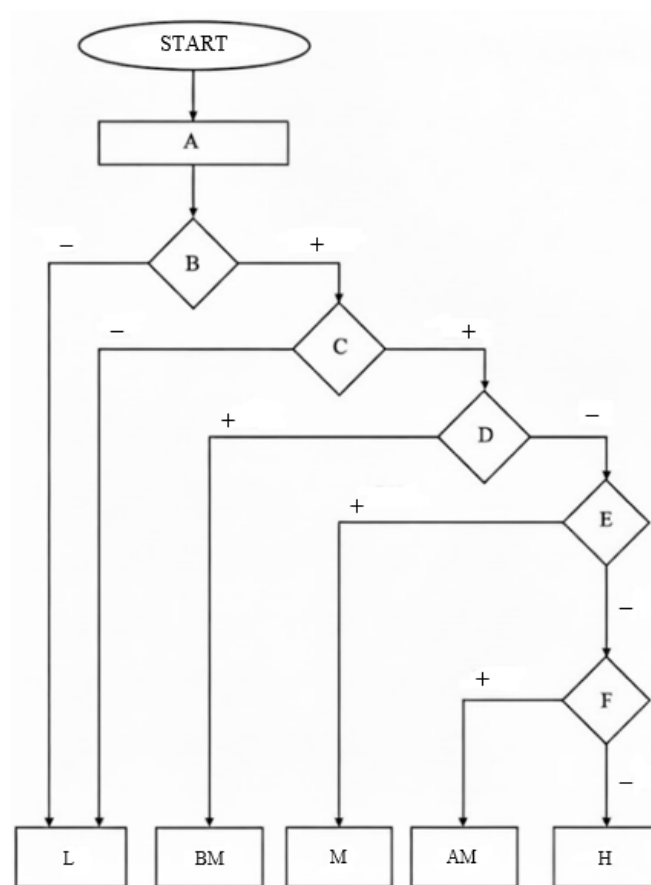
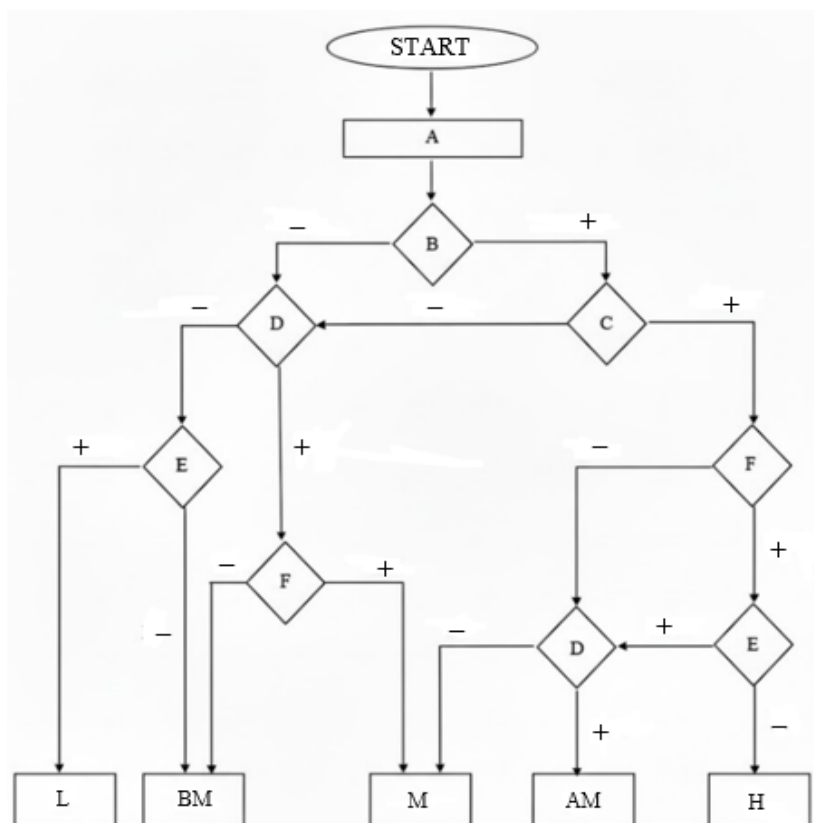


Fig. 3. Graph-scheme of evaluation of qualitative parameter  $x_{2,3}$  – competition among alternative modes of transportation – by the linguistic term,  $t = \overline{1,5}$



**Fig. 4. Graph-scheme of the evaluation of the qualitative parameter  $x_{2.4}$  – the impact of the regulatory and infrastructure environments – by the linguistic term**

The consumer influence parameter  $x_{2.5}$  will determine in the above-mentioned linguistic terms by decomposing the primary evaluation indicators  $x'_p$  (which are presented in table 7) into a set  $X'$  using expert assessments and formula (6).

Table 7

**Parameters for evaluating the consumer influence indicator –  $x_{2.5}$**

Parameter name	Parameter value change range
Dependence on large customers	[0–3]
Competition for customers	[0–3]
Ability of customers to influence prices	[0–2]
Customer loyalty	[0–2]

$$x_{2.5} = \begin{cases} L, \text{ if } \sum_{p=1}^4 x'_p \in (0; 2]; \\ BM, \text{ if } \sum_{p=1}^4 x'_p \in (2; 4]; \\ M, \text{ if } \sum_{p=1}^4 x'_p \in (4; 7]; \\ AM, \text{ if } \sum_{p=1}^4 x'_p \in (7; 9]; \\ H, \text{ if } \sum_{p=1}^4 x'_p \in (9; 10]; \end{cases} \quad (6)$$

We propose to define the qualification level of personnel  $x_{3,1}$  in appropriate linguistic terms by decomposing the primary evaluation indicators  $x'_p$  (which are presented in table 8) into a set  $\mathbf{X}'$  using expert assessments and formula (7).

Table 8

**Parameters for assessing the qualification level of personnel**

Parameter name	Parameter value change range
Level of professional education	[0–4]
Experience in the industry	[0–3]
Regularity of advanced training	[0–3]
Practical skills and competencies	[0–3]

$$x_{3,1} = \begin{cases} L, \text{if } \sum_{p=1}^4 x'_p \in (0; 2]; \\ BM, \text{if } \sum_{p=1}^4 x'_p \in (2; 5]; \\ M, \text{if } \sum_{p=1}^4 x'_p \in (5; 8]; \\ AM, \text{if } \sum_{p=1}^4 x'_p \in (8; 10]; \\ H, \text{if } \sum_{p=1}^4 x'_p \in (10; 13]. \end{cases} \quad (7)$$

Management competence  $x_{3,2}$  is a qualitative parameter which will be estimated with appropriate linguistic terms by decomposition into a set  $\mathbf{X}'$  of primary evaluation indicators  $x'_p$ , presented in table 9, using expert assessments and formula (8).

Table 9

**Parameters for assessing the competence of a manager**

Parameter name	Parameter value change range
Professional industry knowledge	[0–4]
Management skills	[0–3]
Strategic thinking	[0–3]
Communication skills	[0–3]
Ability to innovate	[0–3]

$$x_{3,2} = \begin{cases} L, \text{if } \sum_{p=1}^5 x'_p \in (0; 3]; \\ BM, \text{if } \sum_{p=1}^5 x'_p \in (3; 6]; \\ M, \text{if } \sum_{p=1}^5 x'_p \in (6; 9]; \\ AM, \text{if } \sum_{p=1}^5 x'_p \in (9; 12]; \\ H, \text{if } \sum_{p=1}^5 x'_p \in (12; 16]. \end{cases} \quad (8)$$

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Thus, due to the research a set  $\mathbf{X}$  of evaluation parameters  $x_{ij}$  was defined, structured and substantiated. The values of such indicators are established on the basis of a set  $\mathbf{X}'$  of primary input indicators  $x'_p$ . The formed system of parameters reflects the key aspects of the functioning of a transport enterprise and provides the possibility of a comprehensive and formalized assessment of the level of its competitiveness.

Taking into account that experts and the decision-maker are able to simultaneously analyze  $7 \pm 2$  factors while maintaining high accuracy of assessments, it is advisable to form a compact and informative set of initial decisions. Based on the principles of completeness, consistency and practical significance, such a set can be evaluated by the five linguistic terms considered above which describe the levels of competitiveness of a transport enterprise.

**Conclusions.** The article develops an approach to identifying a set of qualitative parameters for assessing the competitiveness of a transport enterprise. The necessity of comprehensive consideration of not only quantitative financial and economic indicators but also qualitative characteristics of the enterprise's activities, which significantly affect the level of its competitive positions, is substantiated. A decomposition approach is used to structure the evaluation process. It allows dividing the general evaluation task into a system of interconnected sub-goals and forming a logically ordered system of parameters.

A set of qualitative parameters characterizing the organizational culture of the enterprise, the influence of the external environment, and management effectiveness has been precisely defined. For their formalization the authors of the article propose to use graph-analytical and scoring methods which allow the decomposition of complex parameters of influence on a set of primary indicators and provide the possibility of aggregating their expert assessments. The author's approaches allow obtaining ordinal estimates for qualitative parameters. They make possible the objective consideration of intangible factors of a transport enterprise's activity and using them in the practice of managing transport enterprises to increase the efficiency of their activities and strengthen competitive positions in the transport services market.

The presence of strictly described sets of input and output parameters provides the possibility of further application of the fuzzy logic apparatus (Azarova, 2013) or neural network modeling for integral measurement of the competitiveness of a transport enterprise.

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## МОДЕЛЮВАННЯ МНОЖИНИ ЯКІСНИХ ПАРАМЕТРІВ ОЦІНЮВАННЯ КОНКУРЕНТОСПРОМОЖНОСТІ ТРАНСПОРТНОГО ПІДПРИЄМСТВА ЗАСОБАМИ ГРАФО-АНАЛІТИЧНОГО ТА БАЛЬНОГО МЕТОДІВ

**Анжеліка АЗАРОВА,**

*професор кафедри менеджменту та безпеки інформаційних систем  
Вінницького національного технічного університету,  
кандидат технічних наук, професор  
azarova.angelika@gmail.com  
orcid.org/0000-0003-3340-5701*

**Віталіна БОРТНЮК,**

*здобувач вищої освіти  
Вінницького національного технічного університету  
vitalinapetrivna1@gmail.com  
orcid.org/0009-0001-3764-2061*

**Метою статті** є побудова системи якісних параметрів впливу та ідентифікація їх кардинальних та ординальних оцінок для визначення рівня конкурентоспроможності транспортного підприємства на основі графо-аналітичного підходу та лінійного моделювання. Для досягнення поставленої мети передбачено виконання таких завдань: визначення ключових якісних факторів, що впливають на рівень конкурентоспроможності підприємства; декомпозиція складної задачі оцінювання якісного показника на систему взаємопов'язаних підцілей – первинних параметрів впливу; формування множини первинних оцінювальних показників; розроблення підходу до агрегування експертних оцінок для первинних вхідних параметрів із використанням графо-аналітичного методу або бального підходу і отримання для них кардинальних або ординальних оцінок (лінгвістичних термів).

**Методи.** Методологічною основою дослідження є положення системного аналізу, економіко-математичного моделювання та теорії прийняття рішень. У роботі використано декомпозиційний підхід до структурування задачі оцінювання конкурентоспроможності підприємства, метод експертних оцінок, графо-аналітичний метод формалізації взаємозв'язків між показниками, а також бальний метод для отримання кардинальних (ординальних) оцінок якісних параметрів.

**Результати та висновки.** У статті здійснено процес ідентифікації та структуризації множини якісних параметрів оцінювання конкурентоспроможності транспортного підприємства із застосуванням графо-аналітичного та бального підходів. У результаті дослідження обґрунтовано систему якісних показників, що характеризують ключові аспекти функціонування транспортного підприємства, зокрема рівень організаційної культури, ефективність інформаційної системи та внутрішніх комунікацій, безпекову культуру, імідж підприємства, вплив зовнішнього середовища, а також кваліфікаційний рівень персоналу та компетентність керівництва. Представлений авторами статті процес формалізації якісних параметрів здійснюється на основі декомпозиційного підходу із застосуванням узгоджених експертних оцінок та подальшого їх агрегування із використанням графо-аналітичного або бального методів. Такий підхід дозволяє системно ідентифікувати, формалізувати та агрегувати якісні параметри діяльності транспортного підприємства для подальшого оцінювання рівня його конкурентоспроможності. Сформована система параметрів створює основу для подальшого інтегрального оцінювання конкурентоспроможності транспортного підприємства із застосуванням, зокрема, методу нечіткої логіки, яка уможливорює продукування ефективного результуючого рішення на основі різноякісних параметрів впливу та дозволяє приймати обґрунтовані управлінські рішення без врахування усіх комбінацій значень оцінювальних параметрів, що значно спрощує такий процес і мінімізує витрати на нього.

**Ключові слова:** конкурентоспроможність підприємства, якісні показники діяльності, експертне оцінювання, лінгвістичні змінні, графо-аналітичне моделювання, бальний метод, декомпозиція показників, інтегральне оцінювання.



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## ORGANIZATIONAL AND LEGAL ASPECTS OF THE ACTIVITIES OF THE CUSTOMS SERVICE OF THE REPUBLIC OF LITHUANIA AS A ENTITY OF CRIMINAL INTELLIGENCE AND PRE-TRIAL INVESTIGATION: EXPERIENCE FOR UKRAINE

**Purpose.** This article aims to analyze the organizational and legal aspects of the activities of the Lithuanian customs units that carry out criminal intelligence and pre-trial investigation, to study the experience of combating smuggling and other criminal offenses in the customs sphere, in order to form substantiated proposals for the content of regulatory legal acts regarding the competence of the new unit of the Ukrainian customs with law enforcement functions, in the context of the future Law of Ukraine “On Criminal Intelligence”.

**Methods.** This article uses comparative analysis to study the experience of the Customs of the Republic of Lithuania in carrying out operational activities, criminal intelligence and pre-trial investigation, in particular their impact on the effectiveness of preventing and combating smuggling, as well as other criminal offenses in the customs sphere. To analyze the example of the Lithuanian Customs, the method of thematic research is used, which highlights the organizational and legal aspects of the functioning of the Customs Criminal Service. To assess the effectiveness of the Customs Criminal Service in combating cross-border crime, expert assessment methods and statistical data on the number of pre-trial investigations initiated in different years are used. The historical method is also used to track the evolution of the system of law enforcement units of the Lithuanian Customs from the date of its establishment to the present day.

**Results.** The article examines the legal status and organizational structure of the Customs Criminal Service of the Customs Department under the Ministry of Finance of the Republic of Lithuania. It analyzes the role of operational and procedural activities of customs authorities as effective forms of prevention and counteraction to smuggling and cross-border crime, ensuring financial security and effective implementation of sanctions policy against the Russian aggressor state. The main attention is paid to the consideration of the functions, rights and obligations of the customs service in the field of criminal intelligence and pre-trial investigation, enshrined in the laws and regulations of the Republic of Lithuania. The Lithuanian experience of implementing law enforcement powers within the fiscal department is analyzed. Scientific recommendations are proposed for reforming the customs authorities of Ukraine in the context of European integration, in particular institutional unity, legislative delimitation of criminal procedural liability, as well as issues of employee qualifications and staffing of law enforcement units.

**Conclusions.** The experience of the Lithuanian Customs shows that the activities of the Customs Criminal Service, as a subject of criminal intelligence and pre-trial investigation, are an effective tool for preventing and combating smuggling and other criminal offenses in the customs sphere. It ensures the protection of the rights and legitimate interests of the individual, promotes productive interaction of the Customs with other law enforcement agencies, as well as international customs cooperation in the field of law enforcement. The main role in this is played by the presence of developed modern legislation, adapted to the standards of the European Union, and by-laws regulating the organization of the activities of customs authorities as subjects of criminal intelligence and pre-trial investigation. A study of the experience of the Republic of Lithuania shows that the effectiveness of the Customs Service as a subject of criminal intelligence and pre-trial investigation is ensured by clear centralization, a combination of fiscal and law enforcement functions and broad autonomy of the Customs Criminal Service. For Ukraine, it is useful to implement the Lithuanian model of digitalization of data exchange and legislatively establish the full status of a pre-trial investigation body for customs authorities. This will minimize duplication of functions, increase the level of detection of latent customs offenses and ensure compliance with EU standards. The results of the study demonstrate the relevance of analyzing the above sources in order to borrow experience and implement it for reforming the customs service of Ukraine.

**Key words:** customs sphere, law enforcement activities, customs criminal service, smuggling, European integration.

**JEL Classification:** K4, K14, K42, N4, N40, N43.

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**Volodymyr VARAVA,**

Associate Professor at the Department  
of Operative-Search Activity,  
Dnipro State University of Internal  
Affairs

Candidate of Juridical Science,  
Associate Professor

volodymyr.varava@dduvs.edu.ua

orcid.org/0000-0001-7856-1711

**Anna MAKSYMOMA,**

Associate Professor at the Department  
of Language Training,

Dnipro State University of Internal  
Affairs,

PhD in Public Administration

anna.maksymova@dduvs.edu.ua

orcid.org/0000-0002-8332-4988

**Introduction.** The process of Ukraine's integration into the European Union, which has significantly accelerated in recent war years, requires a fundamental revision of approaches to ensuring economic security at the border. One of the key issues is granting law enforcement status to customs authorities. In this context, the experience of the Republic of Lithuania is extremely relevant, since the Lithuanian model of customs administration successfully combines classic customs functions with the powers to conduct criminal intelligence and conduct full-fledged pre-trial investigations.

The operative-search legislation of Ukraine, adopted in 1992, although it has undergone significant changes and additions over time, currently does not meet the realities and requirements of today. In this regard, a working group of representatives of state bodies that conduct operational-search activities, with the participation of officials of the Department for Combating Smuggling and Violations of Customs Rules of the State Customs Service of Ukraine, as well as scientists, is developing a draft Law of Ukraine "On Criminal Intelligence". It is to replace the outdated Law of Ukraine "On Operative-Search Activities". The title of the new law is identical to the title of the Law on Criminal Intelligence of the Republic of Lithuania, which serves as a guideline for reforming Ukrainian legislation. The aforementioned law has enshrined since 2012 the right of Lithuanian customs authorities, which have been carrying out operational activities since 2002, to conduct criminal intelligence activities.

In the system of bodies and institutions subordinate to the Customs Department of the Ministry of Finance of the Republic of Lithuania, the Customs Criminal Service (*Muitinės kriminalinė tarnyba*) (CCS) is authorized to conduct such activities.

By order of the State Customs Service of Ukraine dated 24.05.2024 No. 686, the "Plan for Reforming the State Customs Service of Ukraine for 2024-2030" was approved, paragraph 8.3 of which provides for the adoption of a law granting customs authorities the right to carry out operational and investigative activities and conduct pre-trial investigations in cases of smuggling of goods (Customs Service of Ukraine, 2026).

In 2025, the draft of the new Customs Code of Ukraine, supported by the Cabinet of Ministers of Ukraine, included a section that provides for the creation of a specialized unit within the structure of the State Customs Service, authorized to carry out operational and investigative activities and pre-trial investigation (Customs Service of Ukraine, 2026).

**Purpose.** This article aims to analyze the organizational and legal aspects of the activities of the Lithuanian customs units that carry out criminal intelligence and pre-trial investigation, to study the experience of combating smuggling and other criminal offenses in the customs sphere, in order to form substantiated proposals for the content of regulatory legal acts regarding the competence of the new unit of the Ukrainian customs with law enforcement functions, in the context of the future Law of Ukraine "On Criminal Intelligence".

**Methods.** This article uses comparative analysis to study the experience of the Customs of the Republic of Lithuania in carrying out operational activities, criminal intelligence and pre-trial investigation, in particular their impact on the effectiveness of

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preventing and combating smuggling, as well as other criminal offenses in the customs sphere. To analyze the example of the Lithuanian Customs, the method of thematic research is used, which highlights the organizational and legal aspects of the functioning of the CCS. To assess the effectiveness of the CCS in combating cross-border crime, expert assessment methods and statistical data on the number of pre-trial investigations initiated in different years are used. The historical method is also used to track the evolution of the system of law enforcement units of the Lithuanian Customs from the date of its establishment to the present day.

**General principles of the activities of law enforcement units of the Lithuanian Customs.** The CCS is a specialized institution within the system of customs authorities, subordinate to the Customs Department under the Ministry of Finance of the Republic of Lithuania.

The Service carries out its activities in accordance with the Constitution of the Republic of Lithuania, legal acts of the European Union, international treaties of the Republic of Lithuania, the Law on Budgetary Institutions of the Republic of Lithuania, the Statute of the Internal Service of the Republic of Lithuania, the Law on the Customs Service of the Republic of Lithuania, the Law on the Civil Service of the Republic of Lithuania, the Criminal Procedure Code of the Republic of Lithuania, the Law on Criminal Investigation of the Republic of Lithuania, other laws of the Republic of Lithuania, resolutions of the Government of the Republic of Lithuania, orders of the Director General of the Customs Department and other legal acts.

In accordance with Clause 11, Article 1 of the Law on Criminal Investigation, the Customs Department within the Ministry of Finance of the Republic of Lithuania is included in the list of main criminal investigation institutions.

Until 2012, the Customs Department had the status of an operational activity subject, in accordance with Clause 3 of Article 1 of the Law “On Operational Activity”. Also, Part 1 of Article 165 “Pre-trial Investigation Agencies” of the Criminal Procedure Code of the Republic of Lithuania stipulates that the Customs Service belongs to the pre-trial investigation bodies.

This allows the Lithuanian Customs to independently detect, document and investigate crimes related to smuggling, evasion of customs payments and illegal circulation of excisable goods.

CCS was established on January 1, 2002, after the transfer of the function of combating smuggling from the Police Department to the Lithuanian Customs, which took place in 2000 by decision of the Government of the Republic of Lithuania.

CCS was established by reorganizing the Service for the Prevention and Investigation of Violations of the Customs Department into a separate legal entity - an independent special customs institution. The new special institution of the Lithuanian Customs was created on the model of the German Customs Criminal Service (Zollkriminalamt).

In order to align the structure of the institution with the administrative division of the Lithuanian legal system, the CCS was reorganized back in 2003.

In 2007, the CCS consisted of 10 central structural units and 5 regional departments, and the institution employed 132 officials and employees. In October 2009, the Risk Management Department was established in the CCS, the main task of which was to organize and implement the risk management process in the Lithuanian Customs.

In order to optimize the activities and concentrate the capabilities in the three largest cities of Lithuania, a new structure of the territorial divisions of the CCS came into force in 2010. After the abolition of three regional divisions (in Šiauliai, Panevėžys and Marijampole), the activities of the service were concentrated in the other three - Vilnius, Kaunas and Klaipėda (Lithuanian Customs, 2026).

In addition to laws, the activities of the CCS are regulated by the Regulation on the CCS, approved by Order No. 1B-667 of the Director General of the Customs Department under the Ministry of Finance of the Republic of Lithuania of December 6, 2011 (as amended by Order No. 1B-1149 of the Director General of the Customs Department under the Ministry of Finance of the Republic of Lithuania of December 21, 2018).

According to the said Regulation, the purpose of the CCS is to ensure effective prevention of violations of legal acts committed by the customs and thorough investigation of violations of legal acts committed by the customs and other violations of legal acts detected by the customs in the course of performing its functions.

The CCS performs the following tasks:

- ensures the implementation of legal acts falling within the competence of the customs;

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- organizes and carries out the prevention, detection and investigation of violations of legal acts implemented by the customs and other legal acts falling within the competence of the customs;
  - carries out international and interdepartmental cooperation in the investigation of criminal acts and other violations of legislation related to customs activities;
  - implements the Strategy of Customs Activities of the Republic of Lithuania within the scope of its competence.

In the process of implementing the above tasks, the CCS performs the following functions:

- in accordance with the procedure established by the Criminal Procedure Code of the Republic of Lithuania, conducts pre-trial investigations of criminal acts that became known during the performance by the customs of its direct functions, provided for by the laws regulating its activities;
- conducts criminal intelligence to clarify the facts of criminal acts related to customs activities;
- collects, analyzes and evaluates information on trends in smuggling and other criminal acts and violations related to customs activities;
- manages the risks of violations of legal acts implemented by customs at the central level;
- investigates the economic, legal and criminogenic causes and conditions of smuggling and other criminal acts and violations related to customs activities, and takes measures to eliminate them within its competence;
- organizes and implements preventive measures to prevent smuggling and other criminal acts and violations related to customs activities;
- detains illegally transported goods, objects and persons related to them in accordance with the procedure established by legal acts, in order to register the established violation or conduct an investigation;
- escorts detained and arrested persons in accordance with the procedure established by legal acts;
- cooperates with territorial customs and other customs authorities and, within its competence, gives them mandatory instructions on the implementation of preventive or other measures;
- within its competence, cooperates with law enforcement and other state and municipal institutions and agencies of the Republic of Lithuania
- in order to uncover criminal acts or prevent them, organizes and conducts joint operations with other law enforcement institutions;
- within its competence, cooperates with institutions of the European Union, institutions of other states, organizations in the fields of prevention, investigation, risk management and collection of information on violations of legal acts implemented by customs;
- within its competence, represents customs in institutions of the European Union, foreign states and international organizations;
- on behalf of the Customs Department, processes data from databases of other state institutions and bodies and, in accordance with the established procedure, provides them to customs officials, full-time civil servants and employees working under employment contracts;
- keeps records of special equipment, weapons, and ammunition of the CCS and controls their use;
- performs all actions (including concluding contracts) to organize and implement procurement of goods, services, and works related to criminal intelligence, which are intended to be performed by the customer in accordance with the Procedure for Procurement Related to Intelligence Activities, approved by the Government of the Republic of Lithuania of March 18, 2015. Resolution No. 282 “On Approval of the Procedure for Procurement Related to Intelligence Activities”;
- prepares, participates in the preparation and coordinates draft legal acts related to the prevention and investigation of violations of legal acts implemented by customs, in accordance with the established procedure, submits proposals and comments;
- within the scope of competence, analyzes and summarizes the practice of applying legal acts implemented by customs, and submits proposals to the Customs Department for their improvement;
- participates in conducting special inspections of officials, civil servants and employees admitted to service and work in customs;
- considers complaints, requests and proposals of individuals on issues of the Service’s activities, takes measures to eliminate identified shortcomings and violations;
- performs other functions established by laws and other legal acts, as well as orders of the Director General of the Customs Department and his deputies.

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**Legal aspects of criminal intelligence in the activities of the Lithuanian Customs.** Criminal intelligence (formerly “operational activities”) in Lithuania is defined as the activities of its subjects to collect, record, evaluate and use available information about criminal intelligence objects, carried out in accordance with the procedure established by law, aimed at preventing and solving serious crimes.

According to Article 6 of the Law on Criminal Intelligence of the Republic of Lithuania, which defines the rights of criminal intelligence subjects, the CCS has the right, in accordance with the procedure established by the Government of the Republic of Lithuania or its authorized institutions:

- create and manage the criminal intelligence information system;
- create legal entities that create favorable conditions for criminal intelligence and carry out economic and commercial activities;
- after obtaining the consent of the legal entity, produce and use for criminal investigation the registration and identification marks of the legal entity, documents, document forms, their details, state registration numbers of vehicles;
- produce and use for criminal investigation documents, document forms and their details, confirming the identity.

If information about criminal intelligence objects is available, the CCS has the right to:

- use criminal intelligence information collection methods when, due to the nature and (or) duration of their use, the sanction of the prosecutor or the court is not required;
- use technical means in accordance with the general procedure;
- establish contacts with persons who have become objects of criminal intelligence;
- use the assistance of persons to perform criminal intelligence tasks;
- use the services of specialists to perform criminal intelligence tasks;
- secretly obtain fingerprints, voice, smell and other samples of a person for research;
- use documents necessary for persons detained or arrested in the course of the agency’s activities under legend;
- use a polygraph in accordance with the procedure established by the Law of the Republic of Lithuania on the Use of Polygraphs;
- obtain data from the main state and departmental registers, information systems and databases free of charge in accordance with the procedure established by legal acts;
- receive information necessary for criminal investigation from individuals and legal entities, except for information for which a reasoned court decision is required by law;
- monitor public information disseminated in the media;
- use data from the criminal investigation information system;
- use materials of any type or other marking methods that do not pose a danger to human life or health, intended for marking various objects in order to separate them from a set of specific objects and identify them;
- in cases provided for by international treaties and legal acts of the Republic of Lithuania, cooperate with law enforcement agencies of foreign states and international organizations, agencies of the European Union, provide each other with support, exchange criminal intelligence data and other information.

If there are grounds for conducting a criminal intelligence investigation established by law and obtaining a sanction from a prosecutor or a court, in addition to the rights specified above, the CCS also has the right to:

- receive information from business entities providing electronic communication networks and services, the Bank of Lithuania, financial companies and credit institutions, as well as information stored by other legal entities, the receipt of which requires a reasoned court decision;
- use technical means in a special manner, conduct secret inspection of postal items and their documents, control and seizure of postal items, secret control of correspondence and other communications;
- secretly enter a person’s home, office and other premises, closed areas, vehicles, as well as conduct their inspection, take documents, objects, samples of materials, other objects necessary for criminal intelligence for examination, and examine and (or) mark them without announcing their seizure;
- use methods of collecting criminal intelligence information: controlled transportation, imitation of a criminal act, surveillance, instructions from law enforcement agencies.

The procedure for exercising these rights is established by the Customs Department.

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In accordance with paragraph 1 of Article 7 “Duties of Criminal Intelligence Subjects” of the Law on Criminal Intelligence, during criminal intelligence, the CCS:

- ensures the protection of the rights and legitimate interests of the person
- protects the rights and legitimate interests of secret participants in criminal intelligence and other persons participating in criminal intelligence activities, and guarantees the confidentiality of secret cooperation;
- conducts criminal intelligence only in cases where the protection of the interests of an individual or the state by other means is impossible or difficult;
- terminates the use of methods and means of collecting criminal intelligence information when it becomes clear that the information about the object of criminal intelligence is not confirmed or the tasks of criminal intelligence will not be fulfilled;
- records the information obtained during criminal intelligence and the use of methods and means of collecting criminal intelligence information in accordance with the procedure established by the main criminal intelligence institutions;
- carries out internal control of criminal intelligence and ensures the possibility of conducting external control of criminal intelligence;
- ensures the security of criminal intelligence information;
- ensures that all criminal intelligence information is collected only for the purpose of performing criminal intelligence tasks, and the information obtained is used for its intended purpose in accordance with the procedure established by law.

When conducting criminal intelligence, the CCS cooperates with other criminal intelligence entities, provides them with support and exchanges criminal intelligence information in accordance with its competence, capabilities and expediency.

The management of the CCS has established a procedure for internal control over the implementation of criminal intelligence, in accordance with Article 21 of the Law on Criminal Intelligence.

An important feature of the Lithuanian model is strict governmental and parliamentary control over the legality of these actions. Prosecutors responsible for the coordination of criminal intelligence and control over the legality not only authorize certain measures, but also coordinate their implementation, although recent studies indicate the need to create an independent supervisory agencies to avoid bias.

Criminal procedural powers of the Lithuanian Customs. The Lithuanian Customs is a full-fledged subject of pre-trial investigation, as specified in Article 164 of the Criminal Procedure Code of the Republic of Lithuania.

The Law on the Customs Service of the Republic of Lithuania, in Article 20, defined the rights and obligations of customs officials authorized to conduct pre-trial investigation and criminal investigation.

According to this law, employees of the Customs Service authorized to conduct pre-trial investigation and criminal investigation on suspicion of preparation or commission of a criminal act, in addition to other rights granted to customs officials, have the right to:

- pursue, detain and deliver persons to the premises of the customs office or other law enforcement agencies in order to establish their identity, draw up protocols, acts or other documents, as well as inspect their belongings;
- freely enter the premises of enterprises, institutions and organizations of all forms and types of ownership during their working hours, and outside of working hours - together with a representative of the administration of this enterprise, institution or organization, the owner or his representative, open these premises, as well as vehicles and drive into them;
- demand the submission of documents, computer data carriers or goods for customs inspection, make copies of documents, copy computer data, affix stamps or seals to the storage places of goods, documents, computer data carriers, securities and money;
- if there is a suspicion of the presence of prohibited or restricted substances in the internal organs of a person, order a medical examination to establish this fact;
- detain and inspect persons, goods, documents, detain and inspect vehicles in any place on the territory of the Republic of Lithuania, as well as outside its borders, when this is provided for by legal acts of the European Union implemented by the customs authorities, or international treaties of the Republic of Lithuania;

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In 2025, CCS officers initiated a total of 195 pre-trial investigations into smuggling of goods, illegal possession of excisable goods, violations of international sanctions, smuggling of firearms, explosives or strategic goods, drug smuggling, etc.

The largest number of investigations (110) was initiated for smuggling of drugs and psychotropic substances. Almost all investigations (102 out of 110) were initiated for drugs found in postal items. This trend of sending small batches of drugs by mail has existed for several years.

Number of pre-trial investigations in 2020-2025: 2020 – 161; 2021 – 202; 2022 – 136; 2023 – 96; 2024 – 93; 2025 – 110 (CCS, 2026).

In the context of a full-scale russia-Ukraine War, CCS is conducting investigations into violations of international sanctions (for example, schemes to circumvent sanctions against the russian federation and belarus). In 2025, the “defiant” scheme for supplying equipment through Bulgaria and Portugal was successfully eliminated, which emphasizes the high qualification of the service in cross-border investigations (Euronews, 2025).

**Experience for Ukraine: challenges and opportunities.** In Ukraine, customs officers remain civil servants without full-fledged law enforcement powers. This creates a situation of “low procedural autonomy” and high dependence on other bodies (the Security Service of Ukraine, the Bureau of Economic Security, the National Police of Ukraine).

Key elements of the experience of the customs authorities of the Republic of Lithuania for Ukrainian reforms:

1. Institutional unity: creation within the structure of the State Customs Service of Ukraine of a specialized unit with the right to conduct criminal intelligence (operational and investigative activities) and pre-trial investigation.

2. Legislative delimitation: a clear definition in Art. 216 of the Criminal Procedure Code of Ukraine of the jurisdiction of criminal offenses related to customs matters by the customs service.

3. Qualifications and personnel: introduction of a system of special training for investigators and employees of criminal intelligence units (operational units) of customs authorities, which includes not only customs matters, but also in-depth study of criminal law, criminology, criminal process, forensics, forensic examination, operational and investigative activities (criminal intelligence) and tactics (similar to the Lithuanian and Polish models).

**Conclusions.** The experience of the Lithuanian Customs shows that the activities of the CCS, as a subject of criminal intelligence and pre-trial investigation, are an effective tool for preventing and combating smuggling and other criminal offenses in the customs sphere. It ensures the protection of the rights and legitimate interests of the individual, promotes productive interaction of the Customs with other law enforcement agencies, as well as international customs cooperation in the field of law enforcement. The main role in this is played by the presence of developed modern legislation, adapted to the standards of the European Union, and by-laws regulating the organization of the activities of customs authorities as subjects of criminal intelligence and pre-trial investigation. A study of the experience of the Republic of Lithuania shows that the effectiveness of the Customs Service as a subject of criminal intelligence and pre-trial investigation is ensured by clear centralization, a combination of fiscal and law enforcement functions and broad autonomy of the CCS. For Ukraine, it is useful to implement the Lithuanian model of digitalization of data exchange and legislatively establish the full status of a pre-trial investigation body for customs authorities. This will minimize duplication of functions, increase the level of detection of latent customs offenses and ensure compliance with European Union standards. The results of the study demonstrate the relevance of analyzing the above sources in order to borrow experience and implement it for reforming the Customs Service of Ukraine.

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## ОРГАНІЗАЦІЙНО-ПРАВОВІ АСПЕКТИ ДІЯЛЬНОСТІ МИТНОЇ СЛУЖБИ ЛИТОВСЬКОЇ РЕСПУБЛІКИ ЯК СУБ'ЄКТА КРИМІНАЛЬНОЇ РОЗВІДКИ ТА ДОСУДОВОГО РОЗСЛІДУВАННЯ: ДОСВІД ДЛЯ УКРАЇНИ

**Володимир ВАРАВА,**

*доцент кафедри оперативно-розшукової діяльності  
Дніпровського державного університету внутрішніх справ,  
кандидат юридичних наук, доцент  
volodymyr.varava@dduvs.edu.ua  
orcid.org/ 0000-0001-7856-1711*

**Анна МАКСИМОВА,**

*доцент кафедри мовної підготовки  
Дніпровського державного університету внутрішніх справ  
кандидат наук з державного управління  
anna.maksymova@dduvs.edu.ua  
orcid.org/ 0000-0002-8332-4988*

**Мета.** Стаття має на меті проаналізувати організаційно-правові аспекти діяльності підрозділів митниці Литовської Республіки, що здійснюють кримінальну розвідку та досудове розслідування, вивчити досвід боротьби з контрабандою та іншими кримінальними правопорушеннями у митній сфері, з метою формування обґрунтованих пропозицій щодо змісту нормативно-правових актів щодо компетенції нового підрозділу української митниці з правоохоронними функціями, в контексті майбутнього Закону України “Про кримінальну розвідку”.

**Методи.** У статті за допомогою порівняльного аналізу вивчено досвід митниці Литовської Республіки у здійсненні оперативної діяльності, кримінальної розвідки та досудового розслідування, зокрема їх вплив на ефективність запобігання та боротьби з контрабандою, а також іншими кримінальними правопорушеннями у митній сфері. Для аналізу на прикладі Литовської митниці використовується метод тематичного дослідження, який висвітлює організаційно-правові аспекти функціонування Митної кримінальної служби. Для оцінки ефективності Митної кримінальної служби у боротьбі з транскордонною злочинністю використовуються методи експертної оцінки та статистичні дані щодо кількості досудових розслідувань, розпочатих у різні роки. Історичний метод також використовується для відстеження еволюції системи правоохоронних підрозділів Литовської митниці від дати її створення до наших днів.

**Результати.** У статті досліджується правовий статус та організаційна структура Митної кримінальної служби Митного департаменту при Міністерстві фінансів Литовської Республіки. Аналізується роль оперативної та процесуальної діяльності митних органів як ефективних форм запобігання та протидії контрабанді та транскордонній злочинності, забезпечення фінансової безпеки та ефективного впровадження санкційної політики проти російської держави-агресора. Основна увага приділяється розгляду функцій, прав та обов'язків митної служби у сфері кримінальної розвідки та досудового розслідування, закріплених у законах та нормативних актах Литовської Республіки. Проаналізовано литовський досвід реалізації правоохоронних повноважень у рамках фіскального відомства. Запропоновано наукові рекомендації щодо реформування митних органів України в контексті європейської інтеграції, зокрема інституційної єдності, законодавчого розмежування кримінально-процесуальної відповідальності, а також питань кваліфікації працівників та штатного забезпечення правоохоронних підрозділів.

**Висновки.** Досвід Литовської митниці свідчить, що діяльність Митної кримінальної служби, як суб'єкта кримінальної розвідки та досудового розслідування, є ефективним інструментом запобігання та боротьби з контрабандою та іншими кримінальними правопорушеннями у митній сфері. Вона забезпечує захист

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*прав та законних інтересів особи, сприяє продуктивній взаємодії митниці з іншими правоохоронними органами, а також міжнародному митному співробітництву у сфері правоохоронної діяльності. Основну роль у цьому відіграє наявність розвиненого сучасного законодавства, адаптованого до стандартів Європейського Союзу, та підзаконних актів, що регулюють організацію діяльності митних органів як суб'єктів кримінальної розвідки та досудового розслідування. Дослідження досвіду Литовської Республіки свідчить, що ефективність митної служби як суб'єкта кримінальної розвідки та досудового розслідування забезпечується чіткою централізацією, поєднанням фіскальних і правоохоронних функцій та широкою автономією Митної кримінальної служби. Для України корисним є впровадження литовської моделі цифровізації обміну даними та законодавче закріплення за митними органами повноцінного статусу органу досудового розслідування. Це дозволить мінімізувати дублювання функцій, підвищити рівень виявлення латентних митних правопорушень та забезпечити відповідність стандартам Європейського Союзу. Результати дослідження демонструють актуальність аналізу вищезазначених джерел з метою запозичення досвіду та його впровадження для реформування митної служби України.*

**Ключові слова:** митна сфера, правоохоронна діяльність, Митна кримінальна служба, контрабанда, європейська інтеграція.



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## THE ROLE OF INTERNATIONAL ORGANIZATIONS IN STRENGTHENING REGIONAL SECURITY AND NATIONAL RESILIENCE

**Purpose.** The modern system of international relations is characterized by an increase in the number of complex and interconnected threats that go beyond the traditional understanding of security. Hybrid conflicts, transnational challenges, regional crises, information and cyber threats significantly complicate the provision of stability at both the global and regional levels. In these conditions, the concept of regional security, which is increasingly closely linked to the concept of national resilience of states, acquires special importance. National resilience is considered as the ability of a state and society to resist external and internal threats, adapt to crisis situations and ensure the continuity of key political, economic and social processes.

**Methods.** The study used general scientific and special methods of cognition. Methods of analysis and synthesis were applied to generalize theoretical approaches to regional security and national stability. Systemic and structural-functional approaches made it possible to consider international organizations as key institutional elements of the regional security system. The comparative method was used to analyze the activities of individual international organizations in the security sphere. The generalization method was used to formulate the conclusions of the study.

**Results.** The study substantiates that international organizations play a key role in strengthening regional security by coordinating the actions of states, forming common security approaches, and responding to modern threats. It is determined that the activities of international organizations contribute to increasing the national resilience of states through the development of institutional capacity, collective security mechanisms, and international cooperation.

**Conclusions.** The study found that international organizations play an important role in strengthening regional security, ensuring the coordination of efforts of states, the formation of common security approaches and mechanisms for responding to modern threats. It is proven that through institutional, regulatory and cooperative instruments they contribute to increasing the level of national resilience of states, in particular by supporting institutional capacity, developing collective security and strengthening international cooperation.

**Key words:** international security architecture, collective security, institutional security mechanisms, crisis response, strategic stability, hybrid threats, institutional capacity of the state, international cooperation, peacekeeping.

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**Nataliia VOLOSNIKOVA,**  
Head of the Department of General  
Economic Theory  
National Technical University  
«Kharkiv Polytechnic Institute»  
Candidate of Economic Sciences,  
Associate Professor  
[Nataliia.Volosnikova@khpi.edu.ua](mailto:Nataliia.Volosnikova@khpi.edu.ua)  
[orcid.org/0000-0001-9076-5231](https://orcid.org/0000-0001-9076-5231)

**Fedir ABRAMOV,**  
Senior Lecturer at the Department of  
General Economic Theory  
National Technical University  
«Kharkiv Polytechnic Institute»  
Candidate of Economic Sciences,  
Associate Professor  
[Abramov@khpi.edu.ua](mailto:Abramov@khpi.edu.ua)  
[orcid.org/0000-0003-4825-3974](https://orcid.org/0000-0003-4825-3974)

**Introduction.** The transformation of the modern system of international relations is accompanied by an increase in the number and complexity of security challenges, which are increasingly regional and transnational in nature. Armed conflicts, hybrid threats, the spread of disinformation, cyber attacks, political instability and economic crises form a new security environment in which states are faced with the need to revise traditional approaches to ensuring national and regional security. In these conditions, not only the state's ability to defend itself, but also its ability to maintain stability in crisis situations and effectively adapt to external and internal challenges becomes of key importance. The concept of national resilience is increasingly used in scientific and political discourse to characterize the ability of the state and society to resist complex threats, ensure the continuity of the functioning of institutions and maintain socio-political stability. At the same time, the formation of national resilience is impossible solely at the expense of the state's internal resources, since most modern threats go beyond national borders and have a regional or global dimension. That is why the issues of regional security and international cooperation are becoming particularly relevant.

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In this context, international organizations act as important institutional entities that ensure the coordination of actions of states, the formation of common security approaches and mechanisms for responding to crisis situations. Through collective security instruments, peacekeeping missions, advisory and technical assistance, as well as norm-setting activities, international organizations play a significant role in stabilizing the regional security environment. At the same time, their influence is not limited to the external dimension of security, but also extends to the internal stability of states, in particular through support for institutional capacity, the development of democratic institutions and crisis management mechanisms.

The relevance of studying the role of international organizations in strengthening regional security and national stability is due to the need for a comprehensive understanding of their contribution to the modern security architecture. This issue is of particular importance in the context of an increasing number of regional conflicts and crises that require collective decisions and coordinated actions of the international community. Analysis of these processes allows us to better understand the mechanisms of interaction between international organizations and states and determine their significance for ensuring stability and security in the modern world.

**The purpose** of the article is to comprehensively analyze the role of international organizations in strengthening regional security and shaping the national resilience of states in the context of modern global and regional security challenges. The study aims to clarify the significance of international organizations as institutional actors in ensuring stability, coordinating the actions of states and developing collective security mechanisms, as well as to determine their contribution to increasing the ability of states to effectively counteract crises, adapt to transnational threats and ensure the resilience of political and social institutions.

**Methods.** In the process of research, general scientific and special methods of cognition were used, which provided a comprehensive analysis of the role of international organizations in strengthening regional security and national stability. The method of analysis and synthesis was used to develop scientific approaches to interpreting the concepts of regional security and national stability, as well as to generalize theoretical positions on the activities of international organizations in the field of security. Using a systemic approach, international organizations were considered as elements of an integral system of international and regional security that interact with national institutions and other subjects of international relations. The comparative method was used to compare the role and instruments of various international organizations (UN, NATO, EU, OSCE) in ensuring regional security and supporting the national stability of states. The method of structural-functional analysis made it possible to determine the main areas of activity of international organizations in the field of security and their contribution to the formation of institutional, political and social stability of states. The institutional approach is used to study the mechanisms of influence of international organizations on the processes of strengthening security and coordinating the actions of participating states in the regional dimension. The method of generalization and scientific interpretation is used to formulate conclusions regarding the importance of international organizations in the modern architecture of regional security and their role in increasing national resilience in the face of growing global and regional threats.

**Results.** In the modern theory of international relations, regional security is considered as a complex multidimensional phenomenon that is formed under the influence of political, military, economic and social processes within a certain geographical space. In contrast to the classical state-centric approaches to security, which focused mainly on military confrontation and the balance of power, the regional dimension of security emphasizes the interdependence of states, the commonality of threats and the need to coordinate efforts at the supranational level. This approach is due to the fact that most modern threats – armed conflicts, hybrid influences, migration crises, transnational crime – have a clearly expressed regional character and cannot be effectively neutralized solely by the efforts of an individual state. The theoretical understanding of regional security is based on various scientific approaches, among which the concept of regional security complexes occupies an important place. It proceeds from the fact that security interactions between states are concentrated mainly within regions where the level of mutual influence and interdependence is the highest. In this context, the security of each state is closely linked to the security of its neighbors, and regional instability can quickly transform into internal crises of individual countries. Therefore, regional security appears not as the sum of national security, but as a holistic system of interconnected interests and risks (Cull N. J., 2019).

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In parallel with the development of the regional approach, the concept of national resilience is being formed in scientific discourse, which is used to characterize the ability of the state and society to withstand crises, adapt to dynamic changes and recover from destabilizing influences. National resilience is an interdisciplinary category that combines elements of security, political, social and management research. It covers not only the military component, but also institutional capacity, the effectiveness of public administration, social cohesion and trust in public institutions.

An important feature of the modern security environment is the close relationship between regional security and national stability. Regional conflicts and crises directly affect the internal stability of states, weakening their institutions and reducing the level of public trust. At the same time, states with a low level of national stability can act as sources of regional instability, spreading threats beyond their own borders. Thus, ensuring regional security and building national stability should be viewed as interconnected and complementary processes. In this context, the role of international organizations, which act as institutional mediators between the national and regional levels of security, becomes particularly important. They create regulatory and coordination frameworks for cooperation, contribute to the harmonization of the interests of states and the formation of common approaches to responding to threats. It is through the activities of international organizations that regional security is institutionalized and national stability of states is supported in a complex and dynamic international environment.

In the modern architecture of international security, international organizations play a key role as institutional actors that ensure the coordination of the actions of states in the field of maintaining peace and stability. Their activities are determined by the objective need for a collective response to threats that by their nature go beyond national borders and have a regional or transnational dimension. It is within the framework of international organizations that common approaches to security are formed, conflict prevention mechanisms are developed, and cooperation between states is institutionalized.

The architecture of regional security is based on a combination of the global and regional levels, where both universal and regional international organizations play a leading role. The United Nations is the central element of the global security system, providing the regulatory and legal foundations of international peace and security and defining the general principles of interaction between states in this area. At the same time, regional organizations complement the activities of the UN, adapting security mechanisms to the specifics of individual regions and ensuring a more efficient response to crisis situations (Fedasiuk R., 2020).

A special place in the regional security system is occupied by organizations such as NATO, the European Union and the OSCE, whose activities are aimed at maintaining stability in the European region. NATO performs the function of collective defense and deterrence, providing military-political guarantees of the security of member states and partners. The European Union, in turn, forms a comprehensive approach to security, combining military, civilian, economic and institutional instruments, which allows us to consider security as a multidimensional process. The OSCE focuses on preventive diplomacy, arms control, the protection of human rights and the development of trust between states, which are important elements of regional stability.

An important characteristic of the modern architecture of regional security is the multilevel nature and interaction of various institutional formats. International organizations do not operate in isolation, but are in constant interaction with each other and with national governments, which allows them to coordinate political decisions, avoid duplication of efforts and increase the effectiveness of security measures (Nazaruk Z., 2021). Such interaction contributes to the formation of a common vision of threats and ways to neutralize them at the regional level. In the context of modern challenges, international organizations are increasingly performing not only the functions of responding to conflicts, but also the task of ensuring long-term stability. By developing cooperation mechanisms, supporting security reforms and contributing to strengthening the institutional capacity of states, they are becoming important elements of the regional security architecture. Thus, international organizations act not only as instruments of collective action, but also as structural components of the modern system of regional and international security.

It is advisable to consider the mechanisms of influence of international organizations on regional security as a complex of interconnected instruments – from norm-setting and diplomatic mediation to peacekeeping operations, crisis response, and post-conflict stabilization. The first group of mechanisms is regulatory and legal regulation and the creation of collective response procedures. The universal “constitutional” basis for the interaction of the global and regional levels of security is Chapter VIII of the UN Charter. It directly recognizes the existence of regional arrangements/agencies for the maintenance of peace and

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security and encourages the peaceful settlement of local disputes through regional mechanisms (Article 52), and also determines the conditions for the application of coercive measures: regional organizations can carry out coercive actions only under the authority of the UN Security Council (Article 53) and must inform the UN Security Council of the relevant measures (Article 54).

In practice, this creates a basis for the legitimization of decisions in the field of regional security and at the same time sets the framework for responsibility and accountability, which is important for trust between states and for the “linkage” of regional initiatives with the global peacekeeping system.

The second group of mechanisms is the division of functions between international organizations (task-sharing): when universal and regional institutions coordinate roles in conflict prevention, mediation, operations and recovery. Studies on the interaction of the UN with regional institutions emphasize that regional organizations can “unload” global structures and enhance participation and consensus on security issues, as well as act as an instrument of cooperation and delegation within the broader system of maintaining international peace. Importantly, the practice of applying Chapter VIII itself indicates: the Security Council can encourage regional initiatives for peace settlement, authorize enforcement measures and support regional peacekeeping operations, forming a multi-level model of security management.

The third group of mechanisms is early warning, prevention and mediation, that is, tools aimed at preventing escalation. An illustrative example is the OSCE, where early warning, conflict prevention and crisis management are defined as one of the organization’s focuses, and there is also a generalized “compendium” of relevant mechanisms and procedures. Institutionally, these functions are supported, in particular, by the OSCE Conflict Prevention Center, which directly outlines its role in supporting early warning, conflict prevention, crisis management, mediation, risk reduction and post-conflict rehabilitation. In the context of regional security, it is preventive mechanisms that are of particular value, as they allow operating in the “gray zone” between peace and open conflict, reducing the cost of further settlement and limiting the spread of instability to neighboring states.

The fourth group of mechanisms is operational crisis response tools, which include military and non-military measures. For NATO, crisis prevention and management is defined as one of the fundamental security tasks; it can encompass “military and non-military measures” before, during and after conflicts and is implemented on the basis of the experience of crisis operations, procedures and the Alliance’s integrated command structure; decisions on involvement are made by consensus.

At the same time, NATO explicitly emphasizes the possibility of interaction with other organizations (UN, EU, OSCE, etc.) in combined missions and operations, which is a practical manifestation of inter-institutional coordination in the regional security architecture. In addition, NATO conceptualizes an “integrated approach” to crises as a combination of political, civilian and military instruments and the need for coordination with other actors, emphasizing that military means alone are not sufficient. A similar logic is inherent in the EU through the Common Security and Defence Policy (CSDP): it is positioned as an instrument for conflict prevention, crisis management and international peacebuilding, involving civilian and military resources. Official EU materials also specify the “package” of tasks of missions/operations (humanitarian and rescue tasks, conflict prevention, crisis management tasks, post-conflict stabilisation, etc.) and emphasise the external nature of such missions and operations (Cull N. J., 2008, c. 47).

The fifth group of mechanisms is post-conflict recovery/rehabilitation and institutional capacity building as the basis for long-term security. The OSCE, in describing the functions of its Conflict Prevention Center, directly includes post-conflict rehabilitation and peacebuilding in the scope of tasks. The EU within the framework of the CSDP additionally emphasizes the “integrated approach” to external crises – the coordination of diplomatic, aid and other policy instruments for a “tailor-made response”, as well as the use of civilian missions, in particular to support law enforcement/judicial reforms in post-conflict regions. It is this block of mechanisms that directly links regional security with national resilience: resilience is strengthened through high-quality institutions, the state’s ability to provide basic services, maintain law and order and manageability in stressful conditions. The accountability and information support mechanism, which ensures the continuity of interaction between security levels, requires special attention. The UN Charter requires that the Security Council be informed “at all times” of the activities of regional peace and security mechanisms (Article 54).

This is not only a legal requirement, but also an element of risk management: regular awareness and coordination reduce the likelihood of parallel, uncoordinated actions that could exacerbate conflicts or create competition for mandates between organizations.

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International organizations influence national resilience primarily through supporting institutional capacity and governance quality. The UNDP approach is illustrative, where country resilience is linked to the ability to anticipate and prepare for shocks, which depends on the technical capabilities of the “first line” response institutions, the functioning of state systems and broader governance structures that “set the rules of the game”. It also emphasizes that effective anti-crisis policy requires a combination of institutional qualities (effectiveness, adaptability, stability) with the principles of good governance (participation/inclusion, non-discrimination/equality, rule of law/accountability), and it is this combination that strengthens the legitimacy and viability of crisis solutions.

In practice, this means that international organizations build resilience not only “through resources”, but through rules, standards and approaches to governance that are embedded in state institutions and procedures.

The second key dimension of resilience is civil preparedness and the ability to ensure the continuity of government and the provision of basic services. In NATO’s approach, resilience is defined as the individual and collective ability to prepare for, withstand, respond to and recover rapidly from shocks and disruptions, and civil preparedness is explicitly named as a central pillar of resilience and a critical factor in collective defence. NATO also formulates three “core functions” of civil preparedness: continuity of governance, continuity of vital services for the population and civil support for military operations, which leads to a practical idea: national resilience is about the ability of a state not to “stop” under the pressure of crises.

This approach is important for the article because it demonstrates that international organizations strengthen the resilience of states not only through military instruments, but also through requirements and assessments of civil preparedness and the protection of critical areas.

The third area of contribution of international organizations is support for security sector reform as a tool for long-term resilience. The European Union, in its materials on Security Sector Reform, directly links instability to the lack of an effective and accountable security system and emphasizes that support for partner countries’ reforms is aimed at peace and stability, state-building, democracy, the rule of law and human rights. It is important that democratic civilian control and oversight, transparency of procedures, integration of the security sector budget into the overall budget process and involvement of civil society are mentioned among the principles.

Thus, international organizations contribute to stability not only through “strengthening force capabilities”, but also through institutional guarantees of accountability and “rules of the game” in the security sector, which reduce the risks of internal destabilization, corruption and loss of trust.

The fourth mechanism is targeted capacity building at the institutional and personnel levels. The Defense Security Cooperation University/ISG materials emphasize that no country can effectively protect itself if it is “eroded” by destabilizing influences, including the loss of critical infrastructure, supply chain disruptions, and disinformation campaigns; and resilience is defined as the key to the ability to deter, resist, and recover from shocks. The same materials emphasize the partners’ problems: the lack of legislation, leadership, “whole-of-society” interaction mechanisms, and risk management practices—that is, those “weak spots” where international organizations’ programs are often targeted.

Additionally, the EU in its “Strategic Compass” explicitly states its intention to invest in partners’ resilience and strengthen cooperation with NATO in countering hybrid threats, foreign information manipulation, and securing cyberspace. This is an important argument: international organizations build resilience as a long-term policy of “partnerships and standards”, not as one-off measures (Callahan W. A., 2016, c. 232-235).

The fifth dimension is supporting conflict prevention and peacebuilding, which directly strengthens national resilience by reducing the risks of escalation and restoring trust in institutions. UNDP defines peacebuilding as working with the full “crisis cycle” – from early warning to long-term recovery – with a focus on strengthening institutions and services, access to justice and restoring trust in governance; it also mentions supporting the development of national prevention strategies that help governments identify risks early and coordinate responses.

Within the UN system, the Peacebuilding and Peace Support Office (PBPSO) is described as an institution that strengthens coherence within the UN system and with partners in support of nationally-led efforts to “build and sustain peace”, and also administers the Peacebuilding Fund. This allows us to logically emphasize that “resilience” in the national dimension is not limited to defense, but includes social cohesion, rebuilding trust, inclusiveness and the ability to resolve conflicts without violence.

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Finally, an important component of national resilience is the preservation of public trust and the stability of the information space (Huang Z. A., 2021). This is why international organizations are increasingly including tools for countering hybrid threats and strategic communications in their activities. In the “Strategic Compass”, the EU directly links partnerships to the need for joint responses to threats and records the intention to deepen cooperation with NATO on crisis management, information exchange, countering hybrid threats, foreign information manipulation and securing cyberspace.

For its part, NATO emphasizes a “comprehensive approach” to crises, which combines political, civilian and military tools and the necessary coordination with other actors, and also recognizes the importance of strategic communications in a comprehensive response. As a result, international organizations support national resilience not only through “force” and institutional components, but also by strengthening the ability of states and societies to resist destabilizing information influences and maintain control in a crisis.

Although international organizations provide a framework for regional security and support national resilience, their effectiveness depends critically on the political will of member states, their mandates, decision-making procedures, resources, and the quality of coordination. These factors manifest themselves differently in different regions, which leads to uneven effects from the organizations’ activities.

One of the key challenges for regional organizations is their procedural reliance on unanimity or consensus, which makes it difficult to respond quickly to crises.

A prime example is the OSCE, where decisions must be made by all 57 participating states on the basis of the principle of consensus, defined as “no objections” to a decision. While this principle enhances the legitimacy and politically binding nature of decisions, it also allows one state to block decisions on activities, appointments, or budgets. In public discussions, the participants themselves emphasize that consensus can be “abused” and have an obstructive effect (in particular, preventing decisions or closing field operations).

A similar type of restriction is characteristic of the EU in the field of CSDP, where decisions on the Common Security and Defense Policy are generally adopted unanimously in the EU Council, which is directly enshrined in the relevant provisions of the founding treaties. This strengthens policy coherence, but potentially reduces efficiency and increases the “price of compromise” when launching missions or expanding mandates. [europarl.europa.eu], [consilium.europa.eu]

For most regional formats, the problem of legal legitimacy of coercive actions is critically important. The UN Charter (Chapter VIII) stipulates that regional arrangements may engage in peacekeeping, but enforcement measures under the auspices of regional mechanisms are possible only with the authorization of the UN Security Council, and the UN Security Council must be constantly informed of relevant activities. This creates a structural dependence of regional initiatives on the political dynamics in the Security Council, as well as on the coherence of the positions of key actors on issues of mandating and monitoring implementation.

In practical terms, this means that even with regional readiness to act, political disagreements in the process of mandating and monitoring can significantly limit the speed and scope of the response, which is separately emphasized in the analysis of the interaction of the Security Council with regional organizations (mandating, strategic disagreements, political alignment and operational coordination).

Another limitation is the disparity in mandates and capabilities of different international organizations and regional structures. Comparative reviews emphasize that regional organizations differ significantly in their capabilities (from conflict prevention to post-war reconstruction), and their real effectiveness depends on institutional maturity and resources.

The example of the OSCE additionally shows that the effectiveness of the toolkit can be limited not only by political factors, but also by resource constraints, as well as by the lack of political will to fully use the available tools. Under such conditions, organizations are forced to either narrow their activities or act selectively, which affects the sustainability of security outcomes.

In a multi-level architecture of regional security, coordination between organizations, avoiding duplication, and harmonizing doctrines/approaches become a significant challenge. Analytical materials on the interaction of the UN Security Council with regional organizations highlight operational coordination, resource issues, as well as doctrinal differences and “complementarity/comparative advantage” as a separate problem as a constant point of tension in joint approaches.

For NATO, the coordination aspect is also an important element of crisis management: the Alliance provides for interaction with other international organizations (UN, EU, OSCE, etc.) in combined missions,

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but decisions on involvement are made by consensus and in each case separately, which adds political “inertia” to inter-institutional formats.

Even when organizations have developed monitoring, early warning and prevention tools, the transition from risk diagnosis to timely action becomes a problem. For the EU, this challenge is recorded as one of the “cross-cutting” factors that can hinder the effectiveness of missions and operations: among the problems mentioned, in particular, are the gaps between early warning and early action, as well as resource barriers and differences in the positions of states on the use of force (Nguyen M. T. 2025).

The OSCE has developed early warning and crisis management mechanisms, but their full application in practice is closely tied to the political agreement of the participating States and the procedural framework of the organization.

An additional limitation is the difficulty of maintaining a balance between pragmatic security goals and the value dimension, especially in the context of aggravating geopolitical conflicts. Political assessments of the evolution of CSDP emphasize that the shift in priorities towards “narrowly security” approaches can weaken the primary democratic/governance components of missions and operations. In parallel, analyses of CSDP activities separately highlight the issue of democratic oversight and accountability as one of the criteria for assessing the success of missions, which also affects the public legitimacy of security decisions.

**Conclusions.** Thus, the constraints on the activities of international organizations in the regional dimension are mainly institutional and political in nature: (1) procedural blockages (consensus/unanimity), (2) mandate/legal frameworks for coercion, (3) resource shortages and asymmetry of capabilities, (4) coordination problems, (5) the gap between early warning and early action, (6) the tension between pragmatic security and values/accountability.

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## РОЛЬ МІЖНАРОДНИХ ОРГАНІЗАЦІЙ У ЗМІЦНЕННІ РЕГІОНАЛЬНОЇ БЕЗПЕКИ ТА НАЦІОНАЛЬНОЇ СТІЙКОСТІ

**Наталія ВОЛОСНІКОВА,**

завідувачка кафедри кафедри загальної економічної теорії

Національного технічного університету

«Харківський політехнічний інститут»

кандидат економічних наук, доцент

[Nataliia.Volosnikova@khpi.edu.ua](mailto:Nataliia.Volosnikova@khpi.edu.ua)

[orcid.org/0000-0001-9076-5231](https://orcid.org/0000-0001-9076-5231)

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**Федір АБРАМОВ,**  
доцент кафедри загальної економічної теорії  
Національного технічного університету  
«Харківський політехнічний інститут»,  
кандидат економічних наук, доцент  
Abramov@khpi.edu.ua  
orcid.org/0000-0003-4825-3974

***Мета статті** полягає у всебічному аналізі ролі міжнародних організацій у зміцненні регіональної безпеки та формуванні національної стійкості держав у контексті сучасних глобальних і регіональних безпекових викликів. У межах дослідження передбачається з'ясувати значення міжнародних організацій як інституційних суб'єктів забезпечення стабільності, координації дій держав та розвитку механізмів колективної безпеки, а також визначити їхній внесок у підвищення спроможності держав ефективно протидіяти кризам, адаптуватися до транснаціональних загроз і забезпечувати стійкість політичних та суспільних інститутів.*

***Методи.** Методологічну основу дослідження становлять загальнонаукові та спеціальні методи пізнання, що дозволили комплексно проаналізувати роль міжнародних організацій у зміцненні регіональної безпеки та формуванні національної стійкості держав. У процесі роботи застосовано методи аналізу та синтезу для узагальнення теоретичних підходів до регіональної безпеки й національної стійкості та систематизації наукових поглядів на діяльність міжнародних організацій у сфері безпеки. Системний і структурнофункціональний підходи використано для розгляду міжнародних організацій як складових багаторівневої архітектури регіональної безпеки та визначення їх функцій у підтриманні стабільності й стійкості. Порівняльний метод дозволив зіставити інструменти та практики діяльності окремих міжнародних організацій у сфері безпеки, а інституційний підхід – проаналізувати механізми їх впливу на формування національної стійкості держав. Метод узагальнення застосовано для формулювання висновків і визначення ключових тенденцій розвитку сучасної регіональної безпеки.*

***Результати.** У результаті проведеного дослідження встановлено, що міжнародні організації відіграють системоутворюючу роль у забезпеченні регіональної безпеки та формуванні національної стійкості держав у сучасних умовах глобальної нестабільності. Аналіз теоретичних підходів і практик їх діяльності засвідчив, що регіональна безпека та національна стійкість є взаємопов'язаними категоріями, розвиток яких відбувається в межах багаторівневої архітектури міжнародної безпеки. Доведено, що міжнародні організації виступають інституційними посередниками між глобальним і регіональним рівнями безпеки, забезпечуючи узгодження інтересів держав, вироблення спільних норм і реалізацію колективних механізмів реагування на регіональні загрози. Їхня діяльність сприяє інституціоналізації безпекової взаємодії, зниженню рівня конфліктності та підвищенню передбачуваності міжнародних відносин у регіональному вимірі. Встановлено, що вплив міжнародних організацій на регіональну безпеку реалізується через комплекс взаємодоповнювальних механізмів, зокрема нормотворчу діяльність, превенцію конфліктів, кризове реагування, миротворчі операції та постконфліктну стабілізацію. Застосування цих інструментів дозволяє не лише реагувати на вже наявні загрози, а й формувати умови для довгострокової стабільності в регіонах. Обґрунтовано, що внесок міжнародних організацій у формування національної стійкості держав полягає насамперед у підвищенні інституційної спроможності, розвитку цивільної готовності, підтримці реформ сектору безпеки та зміцненні систем управління кризами. Через стандарти, консультативну підтримку, навчальні програми та операційні місії міжнародні організації сприяють адаптації держав до сучасних гібридних і транснаціональних загроз. Виявлено, що ефективність діяльності міжнародних організацій у регіональному вимірі суттєво обмежується політикоінституційними чинниками, зокрема консенсусними процедурами ухвалення рішень, мандатними обмеженнями щодо примусових дій, ресурсними дисбалансами та проблемами міжінституційної координації. Ці обмеження зумовлюють нерівномірність впливу міжнародних організацій у різних регіонах і знижують оперативність реагування на кризові ситуації.*

*Узагальнення результатів дослідження дозволило дійти висновку, що підвищення ефективності регіональної безпеки та національної стійкості потребує подальшого вдосконалення механізмів взаємодії міжнародних організацій, розвитку гнучких форматів співпраці та посилення координації між глобальними й регіональними інституціями. Саме комплексний та багаторівневий підхід до безпеки створює передумови для стійкого функціонування держав і регіонів у сучасному міжнародному середовищі.*

***Висновки.** Проведене дослідження підтвердило, що в умовах глобальної нестабільності регіональна безпека та національна стійкість держав формуються в тісному взаємозв'язку та дедалі більше залежать від ефективності діяльності міжнародних організацій. Сучасна система міжнародної безпеки набуває багаторівневого характеру, у межах якого саме міжнародні організації забезпечують інституційне*

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поєднання глобального, регіонального та національного вимірів безпеки. Встановлено, що міжнародні організації відіграють ключову роль у інституціоналізації регіональної безпеки, формуючи спільні норми, механізми координації та колективні підходи до реагування на регіональні загрози. Їхня діяльність сприяє зниженню рівня конфліктності, підвищенню передбачуваності міжнародних процесів і зміцненню стабільності в окремих регіонах. Доведено, що внесок міжнародних організацій у формування національної стійкості держав полягає не лише в кризовому реагуванні, а й у довгостроковому підвищенні інституційної спроможності, розвитку цивільної готовності, підтримці реформ сектору безпеки та вдосконаленні систем управління ризиками. Через нормативні, консультативні, операційні та навчальні інструменти міжнародні організації сприяють адаптації держав до гібридних і транснаціональних викликів сучасної безпекової реальності. Водночас з'ясовано, що ефективність діяльності міжнародних організацій у регіональному вимірі істотно обмежується політикоінституційними чинниками, серед яких провідне місце посідають консенсусні процедури ухвалення рішень, мандатні обмеження щодо застосування примусових заходів, нерівномірність ресурсного забезпечення та проблеми міжінституційної координації. Ці фактори зумовлюють асиметрію впливу міжнародних організацій у різних регіонах і знижують оперативність реагування на кризові ситуації. Узагальнення результатів дослідження дозволяє дійти висновку, що подальше посилення регіональної безпеки та національної стійкості потребує вдосконалення механізмів взаємодії міжнародних організацій, розвитку гнучких форматів співпраці та підвищення рівня координації між глобальними й регіональними інституціями. Комплексний, багаторівневий і інституційно узгоджений підхід до безпеки є ключовою передумовою стабільного розвитку держав і регіонів у сучасній системі міжнародних відносин.

**Ключові слова:** архітектура міжнародної безпеки, колективна безпека, інституційні механізми безпеки, реагування на кризи, стратегічна стабільність, гібридні загрози, інституційна спроможність держави, міжнародне співробітництво, миротворча діяльність.



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## TRADE POLICY OPENNESS AND SUSTAINABLE DEVELOPMENT OUTCOMES: A QUANTILE REGRESSION ANALYSIS

**Purpose.** This study examines the heterogeneous effects of trade policy openness on sustainable development outcomes across the conditional distribution of country performance. While existing literature has established a positive aggregate relationship between globalisation and development, limited attention has been paid to the distributional heterogeneity of trade regulatory frameworks' effects on specific Sustainable Development Goals (SDGs), particularly those most directly linked to trade and customs regulation: SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 17 (Partnerships for the Goals).

**Methods.** The study employs panel quantile regression on a dataset covering 167 countries over the period 2001–2023. Trade policy openness is operationalised through the KOF Trade Globalisation *de jure* index, which captures customs duties, trade taxes, regulatory trade barriers, and trade agreement coverage. The *de facto* trade globalisation index is included simultaneously to disentangle policy architecture effects from actual trade flows. Controls include governance quality (Worldwide Governance Indicators), GDP per capita, and population size. All independent variables are lagged by one year to mitigate reverse causality.

**Results.** The findings reveal three distinct patterns. For SDG 9, trade policy openness exerts a strong, positive, and remarkably uniform effect across all quantiles (coefficients ranging from 0.089 to 0.115), while *de facto* trade flows show no independent effect. This suggests that the regulatory architecture of trade, including customs facilitation and barrier reduction, is the primary channel through which trade engagement advances industrial and innovative capacity. For SDG 8, the effect is asymmetric: trade policy openness significantly benefits countries at the top of the performance distribution (Q90: 0.050) but not at the median. For SDG 17, a non-monotonic pattern emerges, with negative effects at lower quantiles and positive effects at upper quantiles.

**Conclusions.** The results demonstrate that trade policy frameworks, rather than actual trade volumes, constitute the primary mechanism linking international economic engagement to progress in sustainable development. The findings have direct implications for customs administrations: streamlining trade regulatory environments and deepening trade agreements can yield measurable gains in industrial development outcomes, particularly for lower-income economies, where the marginal effect of policy openness is largest.

**Key words:** trade policy openness, international trade, Sustainable Development Goals, quantile regression, customs regulation, KOF Globalisation Index, trade liberalisation, income heterogeneity.

**JEL Classification:** F13, F18, O19, Q01, C21.

**Oksana LIASHENKO,**  
Professor at the Department of  
Economics and Trade  
Lesya Ukrainka Volyn National  
University  
Research Fellow of Loughborough  
Business School  
Loughborough University  
Doctor of Economic Sciences,  
Professor  
[o.liashenko@lboro.ac.uk](mailto:o.liashenko@lboro.ac.uk)  
[orcid.org: 0000-0001-5489-815X](https://orcid.org/0000-0001-5489-815X)

**Olga DEMIANIUK,**  
Associate Professor at the Department  
of International Economic Relations  
West Ukrainian National University  
Candidate of Economic Sciences,  
Associate Professor  
[o.demianiuk@wunu.edu.ua](mailto:o.demianiuk@wunu.edu.ua)  
[orcid.org: 0000-0002-4699-0172](https://orcid.org/0000-0002-4699-0172)

**Introduction.** The 2030 Agenda for Sustainable Development recognises international trade as a critical means of implementation for achieving the Sustainable Development Goals (SDGs). Trade policy openness, encompassing customs tariff regimes, regulatory trade barriers, and the depth and coverage of trade agreements, shapes the conditions under which economies can harness international exchange for development gains. Yet the empirical relationship between trade regulatory frameworks and specific SDG outcomes remains surprisingly underexplored, particularly with respect to the heterogeneity of this relationship across different levels of development performance.

A growing body of literature examines the globalisation–development nexus using composite indices (Dreher, 2006; Gygli et al., 2019), but most studies treat globalisation as a monolithic phenomenon, aggregating trade, financial, social, and political dimensions into a single measure. The critical distinction between *de jure* globalisation (policy frameworks, including customs regimes and trade agreements) and *de facto* globalisation (actual

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flows of goods, capital, and people) introduced by Gygli et al. (2019) has been applied to GDP growth, environmental outcomes, and shadow economies (Bataka, 2019; Leal et al., 2021; Berdiev et al., 2023), but not systematically to multidimensional SDG performance.

This paper addresses three gaps in the existing literature. First, it isolates the trade policy dimension of globalisation, which directly reflects customs and regulatory frameworks, from aggregate globalisation measures. This is particularly relevant for customs administrations seeking evidence-based guidance on whether trade facilitation reforms translate into measurable development gains. Second, it simultaneously estimates the effects of *de jure* (policy architecture) and *de facto* (actual trade flows) dimensions, enabling a direct comparison of whether it is the regulatory environment or the volume of trade that drives SDG progress. Third, it employs panel quantile regression (Koenker and Bassett, 1978; Koenker, 2004) to examine whether trade policy openness has differential effects across the conditional distribution of SDG performance, rather than focusing solely on the conditional mean.

The analysis focuses on three SDGs most directly linked to trade and customs policy: SDG 8 (Decent Work and Economic Growth), which captures labour market outcomes and economic dynamism; SDG 9 (Industry, Innovation, and Infrastructure), which reflects productive capacity and technological capability; and SDG 17 (Partnerships for the Goals), which measures international cooperation and policy coherence. Using a panel of 167 countries over 2001–2023, the study draws on the KOF Globalisation Index (Gygli et al., 2019), the Sustainable Development Report (Sachs et al., 2024), and the Worldwide Governance Indicators (Kaufmann et al., 2010).

The remainder of the paper is organised as follows. Section 2 reviews the relevant literature. Section 3 describes the data and methodology. Section 4 presents the results, including baseline OLS estimates, quantile regression findings, and income-group heterogeneity analysis. Section 5 concludes with policy implications for customs administrations and trade policymakers.

**Literature Review. Globalisation, trade openness, and development.** The empirical investigation of whether globalisation promotes economic development has a long history. Dreher (2006) introduced the original KOF Globalisation Index and found a positive association between overall globalisation and economic growth. Potrafke (2015) provided a comprehensive survey showing that globalisation generally promotes growth, though with heterogeneous effects depending on institutional quality and income levels. The major methodological advance came with Gygli et al. (2019), who revised the KOF Index to decompose each dimension into *de jure* (policy-based) and *de facto* (outcome-based) components, enabling researchers to distinguish whether it is the policy architecture or the actual flows that matter for development outcomes.

Subsequent studies exploiting this decomposition have focused predominantly on economic growth and environmental outcomes. Bataka (2019) found that *de jure* economic globalisation drives growth in Sub-Saharan Africa, while *de facto* measures have weaker effects. Leal et al. (2021) examined environmental performance, finding that the policy dimension of globalisation has distinct effects from actual flows. Berdiev et al. (2023) applied the decomposition to the shadow economy, demonstrating that *de jure* and *de facto* globalisation operate through different channels. However, no study has systematically applied this decomposition to the multidimensional SDG framework.

**Trade policy and the SDGs.** The relationship between trade and sustainable development has attracted growing attention. The World Trade Organization has increasingly emphasised trade as a means of SDG implementation (WTO, 2018). Empirical studies have examined specific channels: trade openness and poverty reduction (Winters et al., 2004), trade agreements and environmental provisions (Morin et al., 2018), and customs modernisation and trade facilitation (Grainger, 2011; Widdowson, 2007). The Trade Facilitation Agreement (TFA), implemented since 2017, explicitly links customs reform to development outcomes through provisions on transparency, fees, and border procedures.

Recent panel studies have begun to connect globalisation indices directly to SDG scores. Chuong et al. (2025) used the KOF index with pooled mean group estimation for 104 countries, finding that the effect of globalisation on SDG performance varies across income groups, with negative effects in fragile states and positive effects in successfully developing economies. Halkos et al. (2025) applied a club-convergence analysis using KOF scores to 149 countries. However, both studies treat the KOF index in its aggregate form, without exploiting the *de jure/de facto* decomposition or disaggregating it by trade policy dimension.

**Quantile regression in development economics.** Standard regression methods estimate the effect at the conditional mean, potentially masking substantial heterogeneity across the distribution of the dependent variable. Quantile regression, introduced by Koenker and Bassett (1978) and extended to panel settings by Koenker (2004), allows estimation at any point of the conditional distribution. In the context of SDG performance, this is particularly informative: the effect of trade policy openness may differ substantially for countries at the bottom of the SDG distribution (lagging countries) versus those near the top (leaders). Existing applications include Meinhard and Potrafke (2012), who used quantile regression to examine the effect of globalisation on income inequality, and Uddin et al. (2017), who applied it to governance and economic development. To the best of the author’s knowledge, no previous study has applied quantile regression to the trade policy–SDG nexus.

**Data and Methodology. Data sources and sample.** The analysis draws on four principal data sources. The dependent variables are individual SDG goal scores from the Sustainable Development Report (Sachs et al., 2024), which provides annual scores on a 0–100 scale for each of the 17 SDGs across 208 countries from 2000 to 2023. We focus on SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 17 (Partnerships for the Goals), selected for their direct relevance to trade policy and customs regulation.

The key independent variables are the trade globalisation sub-indices from the KOF Globalisation Index (Gygli et al., 2019), updated through 2023. The *de jure* trade globalisation index (kof\_trade\_dejure) captures the policy architecture of trade openness, including mean tariff rates, tariff revenue as a share of trade, trade taxes, and non-tariff barriers such as regulatory trade restrictions and the depth and coverage of trade agreements. The *de facto* trade globalisation index (kof\_trade\_defacto) captures actual trade flows relative to GDP and partner diversity.

Control variables include the composite Worldwide Governance Indicators (Kaufmann et al., 2010), comprising six dimensions of institutional quality; GDP per capita in purchasing power parity terms (constant 2021 international dollars) from the World Development Indicators; and total population. All independent variables are lagged by one year to mitigate simultaneity concerns. The final estimation sample comprises 3,406 country-year observations for 167 countries over 2001–2023.

Table 1

**Descriptive Statistics**

Variable	N	Mean	SD	Min	Q25	Median	Q75	Max
SDG 8: Decent Work & Growth	4728	68.87	8.41	40.1	64.11	69.29	74.44	90.72
SDG 9: Industry & Innovation	4992	37.52	24.82	0	18.3	30.48	51	99.65
SDG 17: Partnerships	4992	64.09	9.22	40.92	57.78	64.26	70.34	91.25
KOF Trade de jure	3813	55.96	23.48	2.6	36.7	55.15	77.96	96.98
KOF Trade de facto	4375	55.58	18.34	4.36	41.27	57.06	69.44	99.56
Regulatory Quality (WGI)	4352	-0.08	0.99	-2.55	-0.77	-0.2	0.63	2.31
Governance Quality (WGI)	4430	-0.06	0.91	-2.41	-0.73	-0.19	0.63	1.95
GDP per capita, PPP (\$)	4426	21736.02	23520.89	702.85	4765.21	13206.95	30612.34	145590.76
Trade Openness (% GDP)	3911	86.41	50.66	2.47	53.56	75.96	104.99	437.33
Population	4632	36729895.69	137403204.35	9544	1818448.25	7587213	25330794.75	1438069596

Source: Author’s compilation based on SDR (2024), KOF (2025), WGI (2024), WDI (2024).

**Econometric approach.** The baseline specification is estimated using pooled ordinary least squares (OLS) with clustered standard errors at the country level:

$$SDG_{g,i,t} = \alpha + \beta_1 TradeDeJure_{i,t-1} + \beta_2 TradeDeFacto_{i,t-1} + \gamma' X_{i,t-1} + \varepsilon_{i,t}$$

where  $SDG_{g,i,t}$  is the score for goal  $g$  in country  $i$  at time  $t$ ;  $TradeDeJure$  and  $TradeDeFacto$  are the KOF trade sub-indices;  $X$  is a vector of controls (governance quality, log GDP per capita, log population); and all regressors are lagged one period.

The main empirical contribution employs quantile regression (Koenker and Bassett, 1978). For each quantile  $\tau \in \{0.10, 0.25, 0.50, 0.75, 0.90\}$ , we estimate:

$$Q_\tau(SDG_{g,i,t} | Z_{i,t-1}) = \alpha(\tau) + \beta_1(\tau) TradeDeJure_{i,t-1} + \beta_2(\tau) TradeDeFacto_{i,t-1} - 1 + \gamma(\tau)' X_{i,t-1}$$

where  $Q_\tau$  denotes the  $\tau$ -th conditional quantile of the SDG score. The quantile regression coefficients  $\beta(\tau)$  capture the marginal effect of trade policy openness at different points of the SDG performance distribution, allowing us to assess whether trade liberalisation benefits lagging countries (low quantiles) differently from high-performing ones (upper quantiles). This is particularly relevant for policy design, as uniform prescriptions may be inappropriate if the marginal returns to trade openness vary across performance levels.

To further explore heterogeneity, we estimate sub-sample regressions by World Bank income classification (Low, Lower-Middle, Upper-Middle, and High income), which provides an alternative lens on distributional effects grounded in economic structure rather than statistical quantiles.

**Empirical Results. Baseline OLS estimates.**

Table 2

**Pooled OLS Estimates: Trade Policy Openness and SDG Outcomes**

Variable	SDG 8		SDG 9		SDG 17	
	Coef.	p	Coef.	p	Coef.	p
Trade de jure (L)	0.0210	0.490	0.1056**	0.012	-0.0016	0.976
Trade de facto (L)	-0.0030	0.932	0.0276	0.519	-0.0328	0.489
Governance (WGI) (L)	6.0988***	<0.001	14.0741***	<0.001	1.5023	0.248
Ln GDP p.c. (L)	-0.7630	0.312	9.0501***	<0.001	1.5839*	0.090
Ln Population (L)	1.4754***	<0.001	3.8272***	<0.001	-0.4021	0.398
R <sup>2</sup>	0.388		0.816		0.098	
N	3406		3406		3406	

Notes: \*\*\*, \*\*, \* denote significance at 1%, 5%, 10% levels. Standard errors clustered at country level. (L) denotes one-year lag.

Source: Author's compilation based on SDR (2024), KOF (2025), WGI (2024), WDI (2024).

Table 2 presents the pooled OLS results with both *de jure* and *de facto* trade indices included simultaneously. The key finding at the conditional mean is that trade policy openness (*de jure*) has a statistically significant positive effect on SDG 9 (Industry, Innovation, and Infrastructure), with a coefficient of 0.106 ( $p = 0.012$ ), while *de facto* trade flows show no independent effect ( $p = 0.519$ ). Neither dimension achieves significance for SDG 8 or SDG 17 in the pooled specification. The  $R^2$  is notably high for SDG 9 (0.816), reflecting the strong structural relationship between trade policy frameworks and industrial capacity, but considerably lower for SDG 8 (0.388) and SDG 17 (0.098).

However, focusing exclusively on the conditional mean may mask important distributional heterogeneity. The quantile regression results below reveal that trade policy openness has significant effects across different parts of the SDG distribution that are obscured by the mean estimate.

**Quantile regression results.** Table 3 and Figure 1 present the central finding of this study. Trade policy openness (*de jure*) exerts a highly significant positive effect on SDG 9 across the entire conditional distribution, with coefficients ranging from 0.089 at Q90 to 0.115 at Q25 (all significant at the 1% level). Critically, *de facto* trade flows show no independent effect at any quantile when included alongside the *de jure* measure. This finding has a clear interpretation: it is the regulatory architecture of trade, encompassing customs tariff levels, non-tariff barriers, and the depth of trade agreements, rather than the volume of trade itself, that drives progress in industrial development, innovation, and infrastructure.

Table 3

**Quantile Regression: Trade Policy and SDG 9 (Industry, Innovation, Infrastructure)**

Variable	OLS	Q10	Q25	Q50	Q75	Q90
Trade de jure (L)	0.1056**	0.1012***	0.1145***	0.1029***	0.1096***	0.0892***
Trade de facto (L)	0.0276	0.0156	-0.0021	0.0091	0.0120	-0.0014
Governance (L)	14.0741***	11.8797***	14.2570***	14.4137***	14.1307***	12.0072***
Ln GDP p.c. (L)	9.0501***	5.9629***	7.5322***	9.5008***	9.9953***	11.6870***
Pseudo R <sup>2</sup> / R <sup>2</sup>	0.816	0.425	0.475	0.571	0.643	0.627

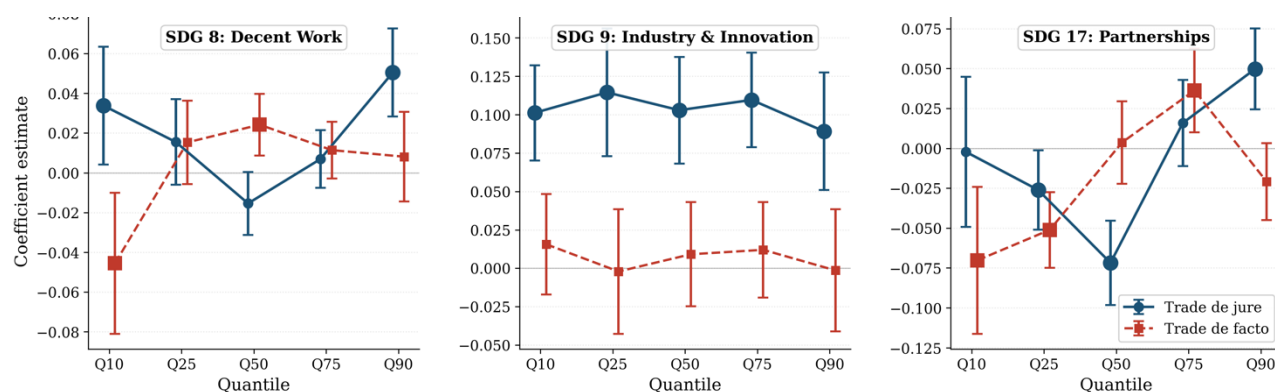
Notes: \*\*\*, \*\*, \* denote significance at 1%, 5%, 10% levels. All independent variables lagged one year.

Source: Author's compilation based on SDR (2024), KOF (2025), WGI (2024), WDI (2024).

The distributional patterns across the three SDGs are visualised in Figure 1, which plots the quantile regression coefficients for both trade de jure and trade de facto, along with 95% confidence intervals. The contrast across the three panels is striking. For SDG 9, the de jure coefficient remains consistently positive and highly significant across all quantiles, forming a near-horizontal band between 0.089 and 0.115, while the de facto coefficient hovers around zero with no statistical significance at any point of the distribution. This visual pattern reinforces the core finding: it is the regulatory architecture of trade, not the volume of trade flows, that drives industrial and innovative capacity. For SDG 8, the coefficient trace exhibits a distinctive U-shaped pattern, with positive and significant effects at the tails of the distribution (Q10 and Q90) but near-zero or marginally negative values at the median, suggesting that trade policy openness operates through qualitatively different mechanisms for lagging versus leading economies in terms of employment and growth outcomes. For SDG 17, the pattern is more complex and non-monotonic: the de jure coefficient is negative and significant at the lower-to-middle quantiles before turning positive at Q90, indicating that the relationship between trade policy openness and international partnerships is contingent on a country's existing level of cooperative engagement.

The relative uniformity of the *de jure* coefficient across quantiles suggests that the trade policy–SDG 9 relationship is robust across the performance distribution. Countries at the bottom of the SDG 9 distribution (Q10: 0.101) benefit almost as much from trade policy openness as those in the middle (Q50: 0.103) or near the top (Q75: 0.110). The slight decline at Q90 (0.089) may reflect diminishing marginal returns as countries approach the innovation frontier.

Table 4 reveals contrasting distributional patterns for SDG 8 and SDG 17. For SDG 8 (Decent Work and Economic Growth), trade policy openness shows a pronounced asymmetry: the coefficient is positive and significant at Q10 (0.034,  $p < 0.05$ ) and strongly significant at Q90 (0.050,  $p < 0.001$ ), but insignificant or marginally negative at the median. This U-shaped pattern suggests that trade policy openness benefits countries at both extremes of the employment and growth distribution, potentially through different mechanisms: at the lower end, trade liberalisation may open new market access and stimulate formal employment, while at the upper end it may enhance productivity through competitive pressure and technology transfer.



**Fig. 1. Quantile regression coefficients of trade de jure and trade de facto on SDG 8, SDG 9, and SDG 17**

Notes: Larger markers indicate statistical significance at the 5% level. Error bars represent 95% confidence intervals.

Source: Author's compilation

Table 4

**Quantile Regression: Trade Policy and SDG 8 (Decent Work) and SDG 17 (Partnerships)**

	Q10	Q25	Q50	Q75	Q90
SDG 8: Decent Work					
Trade de jure (L)	0.0338**	0.0155	-0.0154*	0.0069	0.0504***
Trade de facto (L)	-0.0455**	0.0153	0.0242***	0.0114	0.0081
SDG 17: Partnerships					
Trade de jure (L)	-0.0022	-0.0261**	-0.0718***	0.0159	0.0498***
Trade de facto (L)	-0.0702***	-0.0511***	0.0037	0.0363***	-0.0209*

Notes: \*\*\*, \*\*, \* denote significance at 1%, 5%, 10% levels. Controls (governance, GDP, population) included but not reported.

Source: Author's compilation

For SDG 17 (Partnerships for the Goals), the pattern is strikingly non-monotonic. Trade policy openness has a significantly negative effect at Q25 ( $-0.026$ ) and Q50 ( $-0.072$ ), but a significantly positive effect at Q90 ( $0.050$ ). This suggests that trade liberalisation may initially reduce partnership indicators (perhaps by displacing multilateral cooperation with bilateral arrangements), but at higher levels of partnership performance it reinforces international engagement. The *de facto* dimension shows an inverse pattern at the lower quantiles, indicating that actual trade flows and policy openness operate through distinct channels for partnership outcomes.

**Income group heterogeneity.** Table 5 reinforces the centrality of SDG 9 as the primary channel through which trade policy openness operates. The *de jure* trade coefficient for SDG 9 is largest in low-income countries ( $0.162$ ,  $p < 0.001$ ) and decreases monotonically across income groups:  $0.120$  for lower-middle,  $0.035$  for upper-middle (not statistically significant), and  $0.067$  for high-income countries. This gradient has a clear policy interpretation: reducing customs barriers and deepening trade agreements yields the highest marginal returns for industrial development in the poorest economies, where productive capacity has the most room for growth. For SDG 8, the effect is concentrated among lower-middle-income countries ( $0.038$ ,  $p < 0.05$ ), whereas SDG 17 shows no significant effects across any income subgroup, consistent with the complex distributional pattern observed in the quantile regressions.

Table 5

**Trade Policy Openness Effects by Income Group (OLS)**

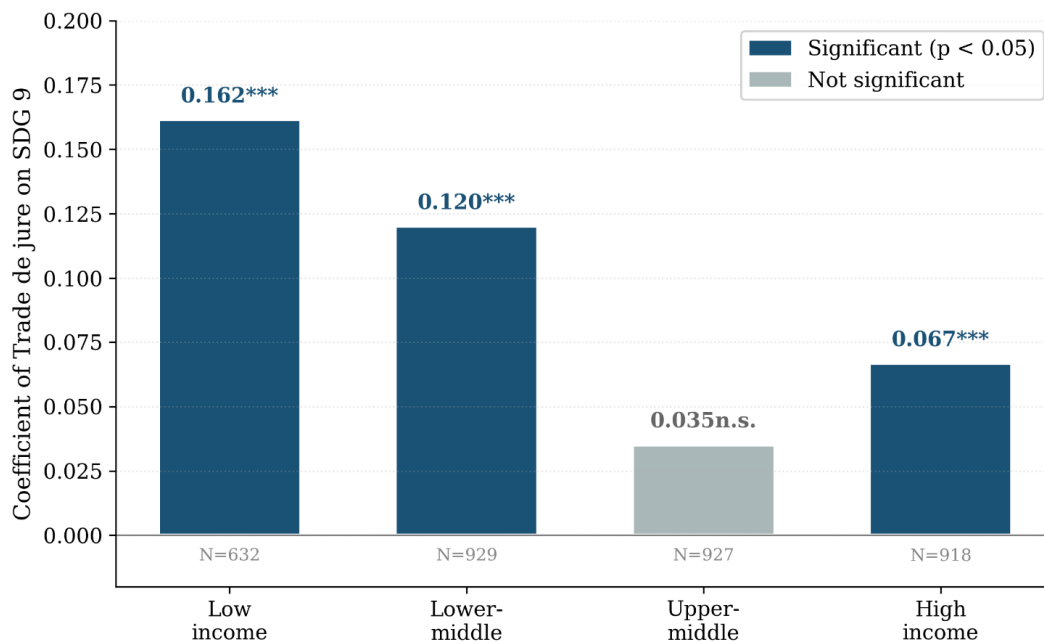
Income Group	SDG 8 de jure	p	SDG 9 de jure	p	SDG 17 de jure	p	N
Low	0.0332*	0.057	0.1615***	0.000	-0.0334	0.129	632
Lower-Middle	0.0375**	0.019	0.1200***	0.000	-0.0049	0.829	929
Upper-Middle	0.0206	0.198	0.0350	0.184	-0.0028	0.902	927
High	-0.0119	0.432	0.0667***	0.002	0.0249	0.238	918

Notes: Coefficients on  $L_{kof\_trade\_dejure}$  from OLS with controls. \*\*\*, \*\*, \* denote 1%, 5%, 10% significance.

Source: Author's compilation based on SDR (2024), KOF (2025), WGI (2024), WDI (2024).

Figure 2 provides a complementary perspective on this heterogeneity by disaggregating the trade *de jure* effect on SDG 9 across World Bank income classifications. The bar chart reveals a clear descending gradient: the marginal effect of trade policy openness on industrial and innovative capacity is largest in low-income economies ( $0.162$ ) and diminishes progressively through lower-middle ( $0.120$ ) and upper-middle income groups, before partially recovering in high-income countries ( $0.067$ ). Notably, the coefficient for upper-middle income countries fails to reach conventional significance levels, suggesting a potential «middle-income plateau» where the marginal returns to further trade liberalisation for industrial development temporarily diminish, possibly because these economies have already captured the most accessible gains from tariff reduction but have not yet developed the institutional depth to benefit from deeper regulatory integration.

**Conclusions.** This study provides the first systematic analysis of how trade policy openness, distinguished from actual trade flows, affects progress towards specific Sustainable Development Goals across the conditional distribution of country performance. Using panel quantile regression on 167 countries over 2001–2023, three principal findings emerge.



**Fig. 2. Effect of trade policy openness (KOF Trade de jure) on SDG 9 by World Bank income group.**

Note: Dark bars indicate significance at 5% level. \*\*\*, \*\* denote significance at 1% and 5% levels respectively; n.s. = not significant.

Source: Author's compilation based on SDR (2024), KOF (2025), WGI (2024), WDI (2024).

First, trade regulatory frameworks (the *de jure* dimension), rather than actual trade volumes (*de facto*), constitute the primary mechanism linking international trade engagement to SDG progress. When both dimensions are included simultaneously, *de facto* trade shows no independent effect on SDG 9, while the *de jure* component remains robustly significant. This finding carries direct implications for customs administrations: the design of trade regulatory environments, including tariff structures, non-tariff barriers, and trade agreement architecture, matters more for development outcomes than the resulting volume of trade.

Second, the relationship between trade policy openness and sustainable development is goal-specific and distributionally heterogeneous. SDG 9 (Industry, Innovation, and Infrastructure) emerges as the primary beneficiary of trade liberalisation, with a remarkably stable positive effect across the entire conditional distribution. SDG 8 (Decent Work and Economic Growth) shows an asymmetric pattern benefiting primarily top performers, while SDG 17 (Partnerships) exhibits a non-monotonic relationship that warrants further investigation.

Third, the marginal returns to trade policy openness are highest for low-income countries, where a one-point increase in the KOF Trade *de jure* index is associated with a 0.162-point increase in the SDG 9 score, compared to 0.067 in high-income countries. This suggests that customs modernisation and trade facilitation reforms, such as those envisaged by the WTO Trade Facilitation Agreement, can deliver the largest development dividends precisely where they are most needed.

The findings are subject to several limitations. The panel quantile regression does not fully control for unobserved country-specific heterogeneity, and the one-year lag structure may not capture longer-term adjustment dynamics. Future research could employ fixed-effects quantile regression (Machado and Santos Silva, 2019) or examine specific customs reform episodes using quasi-experimental designs. Additionally, disaggregating the trade *de jure* index into its tariff and non-tariff components could reveal which specific policy instruments are most effective.

Despite these caveats, the study provides robust evidence that trade policy architecture is a significant and underappreciated driver of progress in sustainable development, particularly for industrial capacity in lower-income economies. For customs administrations and trade policymakers, the message is clear: streamlining regulatory environments and deepening trade agreements can yield measurable, broad-based gains in SDG performance.

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## ВІДКРИТІСТЬ ТОРГОВЕЛЬНОЇ ПОЛІТИКИ ТА ДОСЯГНЕННЯ СТАЛОГО РОЗВИТКУ: КВАНТИЛЬНИЙ РЕГРЕСІЙНИЙ АНАЛІЗ

**Оксана ЛЯШЕНКО,**

професор кафедри економіки і торгівлі  
Волинського національного університету імені Лесі Українки,  
науковий співробітник Лафборо бізнес-школи  
Університету Лафборо  
доктор економічних наук, професор  
o.liashenko@lboro.ac.uk  
orcid.org: 0000-0001-5489-815X

**Ольга ДЕМ'ЯНЮК,**

доцент кафедри міжнародних економічних відносин  
Західноукраїнського національного університету  
кандидат економічних наук, доцент  
o.demianiuk@wuni.edu.ua  
orcid.org: 0000-0002-4699-0172

**Метою статті** є емпіричне дослідження гетерогенності впливу відкритості торговельної політики на результати сталого розвитку країн. Досліджується, як однакові за напрямом торговельно-регуляторні зміни по-різному впливають на країни, що перебувають у нижніх, середніх і верхніх інтервалах розподілу відповідних показників досягнення Цілей сталого розвитку (ЦСР)

Попри усталену тезу про позитивний зв'язок між глобалізацією та розвитком, бракує системних оцінок того, у яких сегментах розподілу та для яких вимірів сталого розвитку відкритість торговельної політики забезпечує найбільшу маржинальну віддачу. Аналіз зосереджено на ЦСР 8 (Гідна праця та економічне зростання), ЦСР 9 (Промисловість, інновації та інфраструктура) та ЦСР 17 (Партнерство заради сталого розвитку), які найбільше пов'язані з міжнародною торгівлею та митним регулюванням.

**Методи.** Використано панельну квантильну регресію для вибірки 167 країн за 2001–2023 рр., що дозволяє оцінити ефекти на різних квантилях умовного розподілу (Q10–Q90) і виявити асиметрії, характерні для кроскраїнових даних. Відкритість торговельної політики операціоналізовано індексом KOF Trade Globalisation de jure, який відображає політико-регуляторний вимір: митні тарифи, торговельні податки, нетарифні бар'єри та торговельні угоди. Одночасне включення індексу KOF de facto дає змогу розмежувати вплив інституційно-нормативних правил торгівлі та фактичних торговельних потоків. Контрольні змінні: якість урядування (WGI), ВВП на душу населення та чисельність населення; усі незалежні змінні лаговано на один рік для зниження ризику одночасності та механічної ендогенності.

**Результати.** Виявлено три основні закономірності. Для ЦСР 9 відкритість торговельної політики має стійкий позитивний ефект на всіх квантилях, тоді як фактична торгівля не демонструє незалежного впливу, що підкреслює значення регуляторних параметрів (передбачуваність правил, зниження бар'єрів, ширше охоплення угод) для індустріально-інноваційної динаміки. Для ЦСР 8 ефект асиметричний і статистично значущий лише на верхньому квантилі (Q90), що свідчить про наявність порогових інституційних умов, за яких лібералізація торговельної політики перетворюється на результати у ЦСР8.

Для ЦСР 17 спостерігається немонотонний вплив: негативні ефекти на нижніх квантилях і позитивні на верхніх, що узгоджується з гіпотезою про неоднакову спроможність країн конвертувати торговельну відкритість у партнерства, координаційні механізми та інституційні форми міжнародної взаємодії.

**Висновки.** Визначальним механізмом зв'язку між міжнародною торговельною взаємодією та прогресом сталого розвитку є регуляторна торговельна політика, а не обсяги торгівлі. Спрощення та прозорість торговельного регулювання, зниження тарифних і нетарифних бар'єрів та поглиблення торговельних угод здатні забезпечити відчутний прогрес, особливо в країнах із низьким доходом, однак для досягнення соціальних і партнерських результатів необхідні комплементарні інституційні реформи.

**Ключові слова:** відкритість торговельної політики, міжнародна торгівля, цілі сталого розвитку, квантильна регресія, митне регулювання, індекс глобалізації KOF, лібералізація торгівлі, гетерогенність доходів.



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## NATION BRANDING OF A COUNTRY AS A SOFT POWER INSTRUMENT IN INTERNATIONAL TRADE: THE EXAMPLE OF CHINA

**Purpose.** The aim of this study is to explore the nation branding as an instrument of soft power, using the case of China, and to assess its impact on international trade in the context of rivalry with the United States.

**Methods.** The research methodology combines a review of theoretical research on soft power, nation branding, and hegemonic stability theories with comparative statistical analysis. The empirical study uses a regression model (OLS) based on data from five leading economies (the United States, China, Germany, Japan, and the United Kingdom) for the period 2020–2024. The model uses export performance as the dependent variable, and GDP, economic openness index, and nation branding value as exogenous variables, including dummy variables to distinguish between the effects for China and the United States.

**Results.** In contrast to the United States, which acts as an established hegemon defending the status quo, China is a rising challenger whose strategy is aimed at active expansion and reformatting international regimes. The analysis found that China's strategic strengthening of its nation branding is based on four vectors: economic (BRI and RCEP), cultural (Confucius Institute network), technological (Huawei, TikTok, Alibaba), and diplomatic. Although the positive impact of brand value on exports was found near the mean, the study found a nonlinear relationship characterized by a decrease in marginal profitability, especially for the US. For China, the marginal brand effect remains lower than in the reference group, as its export dominance is currently driven by production efficiency and price factors rather than brand equity.

**Conclusions.** The hypothesis that China's nation branding impact is statistically more significant than that of the US was not empirically confirmed. However, the study highlights the paradox of China's brand in global trade: while its brand value is currently secondary to its manufacturing capabilities, its importance is projected to grow as the PRC moves into high-tech niches and increases value-added exports. Ultimately, the nation branding serves as an important operational mechanism for integrating soft power into global trade.

**Key words:** international economy, intangible assets, brand value, competitiveness, country of origin effect, global leadership, geoeconomics, exports, trade openness.

**JEL Classification:** F10, F14, M31, O53, P45.

### Tetiana PALIIENKO,

Senior Lecturer at the Department of  
Economics  
National University of Kyiv-Mohyla  
Academy  
Doctor of Philosophy in Economics  
[t.palienenko@ukma.edu.ua](mailto:t.palienenko@ukma.edu.ua)  
[orcid.org/0000-0002-5978-0721](https://orcid.org/0000-0002-5978-0721)

### Alina KALIuha,

Higher Education Applicant at the  
Department of Economics  
National University of Kyiv-Mohyla  
Academy  
[a.kaliuha@ukma.edu.ua](mailto:a.kaliuha@ukma.edu.ua)  
[orcid.org/0009-0007-0536-3723](https://orcid.org/0009-0007-0536-3723)

**Introduction.** The modern international economic system is undergoing a large-scale transformation, in which the role of intangible factors of influence of states on international processes is increasing. Alongside traditional instruments of economic and political power, soft power is becoming increasingly important, one of the main manifestations of which is the nation branding. It forms the image of the country, the level of trust in its institutions and products, and affects the position of the state in international trade. The relevance of the study is due to the intensification of global competition between leading economies, in particular the USA and the People's Republic of China (PRC). Despite the dominance of material factors, such as production volumes and financial resources, the ability of the state to form a positive image and ensure the favour of international partners is becoming increasingly important. A significant number of scholars have paid attention to the concepts of institutional leadership in the world economy (J. Nye, C. Kindleberger, R. Gilpin, R. Keohane and others), but what has often been overlooked by researchers is the analysis of the indirect influence that both countries have on the formation of the world economic order. In this context, China's nation branding acts as an important tool for supporting its export positions in world markets.

The aim of the study is to reveal the country's nation branding using the example of China as an instrument of soft power and to

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assess its impact on international trade in the context of rivalry with the USA. To achieve this goal, the following tasks have been defined:

- analyse the theoretical foundations of the concepts of soft power, nation branding and hegemonic stability;
- systematize the strategic directions of branding activity of the PRC;
- build a regression model of the influence of the brand on export indicators;
- assess the effects for China and developed economies.

The research methodology combines an analytical review of the theoretical literature, a comparative analysis of statistical series and OLS regression on panel data of the five leading economies of the world for 2020–2024.

**Literature review.** The theoretical basis of the study is three interrelated approaches, the first of which is the concept of soft power, introduced by the American political scientist Joseph Nye in 1990 (Rothman, 2011). The author defines soft power as the ability of a state to achieve desired outcomes through attraction rather than coercion or payments. Its main sources include the attractiveness of a country's culture, its political values when it lives up to them, and its foreign policies when they are seen as legitimate and morally authoritative (Nye, 1990, p. 166; Rothman, 2011). Further research has expanded this notion, with Akdağ (2022) refining the concept for China, arguing that China's soft power is exercised through cultural diplomacy, economic attractiveness, and participation in shaping international norms. At the same time, China's soft power instruments (Confucius Institutes, state-owned media) have faced increasing scepticism in host countries. The concept of "Sharp Power" (Walker & Ludwig, 2023) describes a manipulative authoritarian influence distinct from soft and hard power. Examples of Confucius Institute closures in Australia, Sweden, and Canada illustrate the regional heterogeneity of Chinese soft power effectiveness.

The second approach is the theory of nation branding, because a brand is a narrower concept that lies within the framework of soft power and acts as its tool. According to the interpretation of Kapferer (2008), there are two main paradigms in the context of defining a brand, where the first is focused on external actors and their relationships with the brand, and the second is aimed at obtaining a result in monetary terms, that is, the brand acts as an intangible asset. The researcher also distinguishes between micro- and macro-levels of the brand, where at the micro-level the brand provides additional value to the goods and services of specific enterprises; at the macro-level it forms a holistic image of the state in the global environment (Kapferer, 2008). Kapferer's Brand Identity Prism further operationalizes this framework, structuring national image through six facets: physique, personality, culture, relationship, reflection, and self-image, enabling systematic nation brand analysis. The connecting link between these levels is the Country of Origin Effect (COE), which describes the influence of the country of origin on consumer evaluations of a product.

The third approach is the theory of hegemonic stability, which appears to be an important factor at the macro level that determines the world order, and can also explain the positions of power of nation brands of China and the USA today. Together with the theory of international regime, it has been developed over a long period of time by representatives in international political economy, in particular C. Kindleberger (1973), R. Gilpin (1981) and R. Keohane (1984) (Keohane, 2020). The theory of hegemony has taken on different meanings within several conceptions. From a realist perspective (Gilpin, 1981, pp. 144–145), hegemony appears as a situation in which the world order is created by a dominant power and international regimes depend on its existence. Keohane challenged hegemonic stability theory through neoliberal institutionalism, arguing that international regimes can persist even after hegemony declines. He distinguishes weak regimes, where rules are interpreted differently by participants, from strong ones, which ensure predictable behaviour based on shared standards. (Keohane, 2020). According to these two types, power in an international regime will be fragmented or concentrated, with different consequences, with fragmentation leading to the fragmentation of the international regime, while concentration leading to stability. According to hegemonic stability theory, hegemons create strong international regimes by providing public goods (Keohane, 2020). When hegemonic and smaller states cooperate, the hegemon shapes the international environment by linking state capabilities with behaviour through power as a resource (Keohane, 2020). Gramsci's "ideological hegemony" expands this beyond coercion, incorporating cultural leadership, education, and values (Akdağ, 2022, p. 207; Keohane, 1984, pp. 32–33). Combining this theory with the concept of soft power allows us to consider the nation branding as a tool for indirect influence on international trade.

The synthesis of the three approaches considered forms an analytical framework where the nation branding appears as an operational mechanism through which the state accumulates and projects soft power in the field of international trade (Table 1). The logic of this mechanism is that the cultural attractiveness of a state and the legitimacy of its foreign policy form positive associations with the producing country, which translate into price premiums for export goods, reduced transaction costs in trade relations, and ultimately into increased trade volumes.

Table 1

**Integrating the concepts of soft power, nation branding, and hegemonic stability into international trade**

Theoretical approach	Concept	Mechanism	Significance for international trade
<b>The concept of “soft power”</b>	Cultural attractiveness, foreign policy values, legitimacy of international policy, diplomatic and cultural activity	Strengthening sympathy for the country and the attractiveness of culture, values, and politics instead of using harsh coercion	Expanding trade ties, increasing exports, facilitating access to markets
<b>Nation branding</b>	Brand as an intangible asset, reputational capital of the state (macro level), effect of the country of origin on prices	Creating added value for goods, reducing information asymmetry	Increasing export competitiveness, increasing export margins
<b>Hegemonic stability theory</b>	Impact on international trade regimes, hegemonic legitimacy, stability of world order.	Institutional support for the stability of the international system	Establishing and protecting global trade rules and regimes, strengthening leadership positions in global value chains

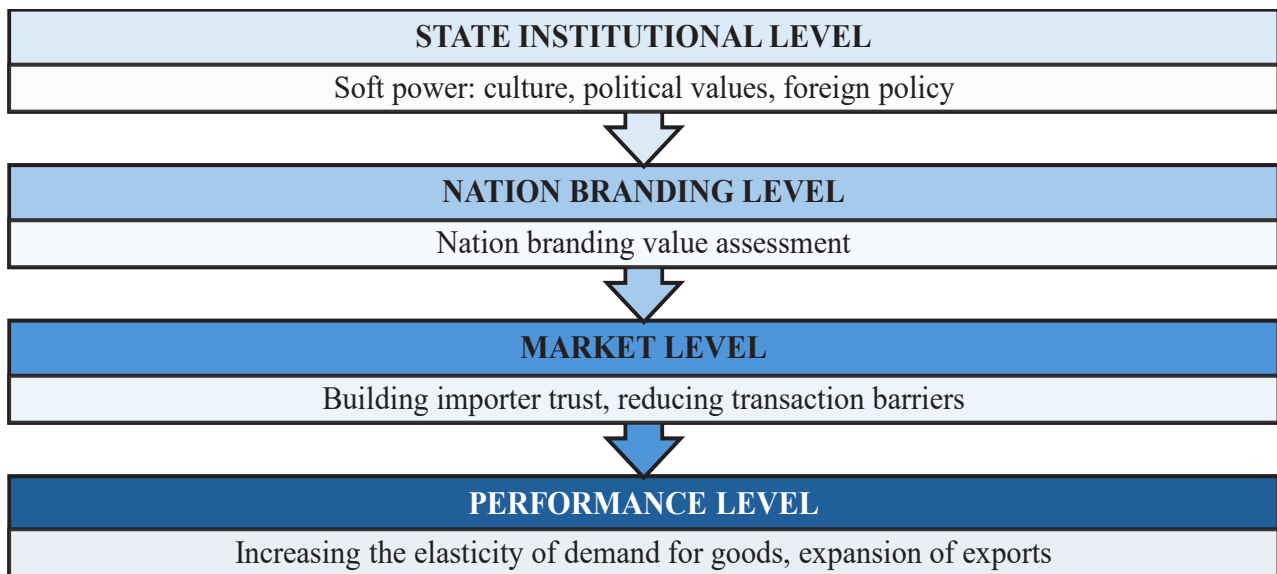
Source: created by the authors

How a country is perceived in the world directly affects its trade through the Country of Origin Effect, which describes the influence of a producing country’s reputation on the perception of the quality and price of its goods. A positive COE (e.g., “Made in Japan” or “Made in Germany”) allows manufacturers in the respective countries to receive a price premium and build consumer loyalty. For China, the COE remains mostly neutral or slightly negative in the premium goods segment, although in certain technological niches (e.g., smartphones, solar panels, telecommunications equipment) the situation is gradually changing for the better.

**Geoeconomic dimension of soft power.** The transition from an industrial to an information economy has modified the structure of competitive advantages in the global market. To visualize this mechanism, we have developed a conceptual diagram (Figure 1).

As illustrated in Figure 1, a country’s soft power translates into tangible trade advantages through a four-level mechanism. At the initial state institutional level, the government generates the “raw material” of its soft power through concrete actions, such as establishing favourable legislation, funding cultural diplomacy, and advancing free trade agreements. Moving to the nation branding level, these disparate efforts are consolidated into a targeted marketing strategy via export agencies and global PR campaigns, transforming abstract influence into a measurable economic asset. Once formalized at the market level, this strong national brand acts as a global quality mark that inspires institutional trust among foreign buyers and mitigates transaction barriers. Finally, at the performance level, this enhanced trust increases the elasticity of foreign demand, ultimately driving the steady expansion of the country’s macroeconomic export flows.

Within the competition between Beijing and Washington, their approaches to the use of soft power differ radically, which is due to the different stages of the life cycle of their global hegemony (Table 2).



**Fig. 1. The mechanism of influence of the nation branding on macroeconomic export flows**

Source: created by the authors

Table 2

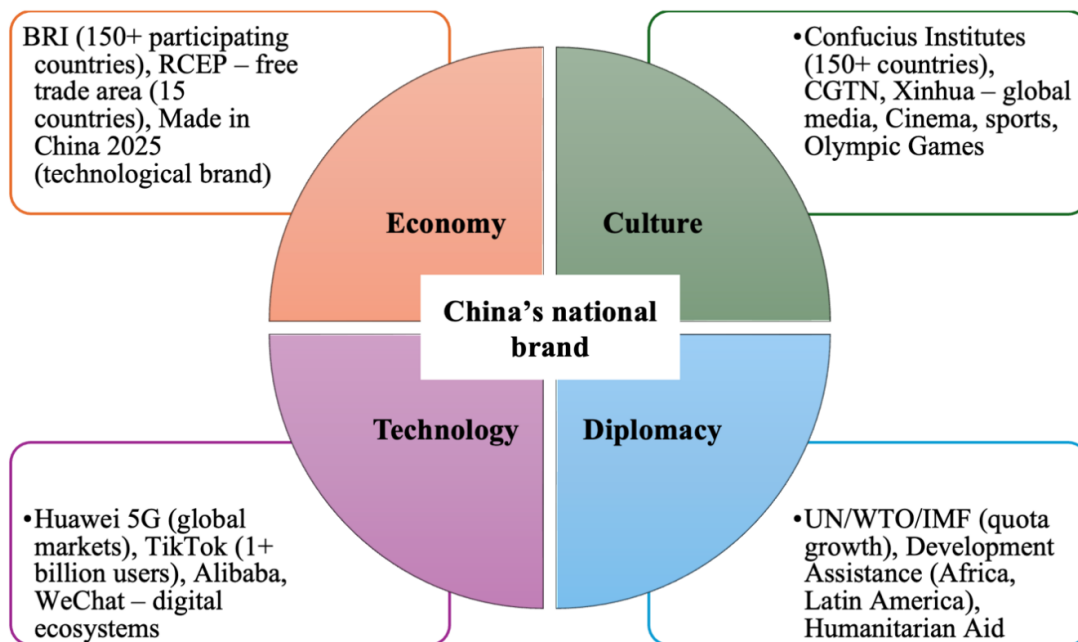
**Comparison of soft power strategies of the USA and the PRC**

Criterion	United States of America	People's Republic of China
<b>Geoeconomic status</b>	Established hegemon (protecting the status quo, supporting the liberal trade order)	A growing contender (partial revisionism, desire to reformat regimes)
<b>The main vector of the country's brand</b>	Innovation, technological leadership, cultural globalization, the dollar as a reserve currency	Production efficiency, infrastructure projects, state capitalism
<b>Soft power tools</b>	Hollywood, universities, international institutions, financial system	Belt and Road Initiative, public investment, production chains
<b>Stage of soft power development</b>	Saturation (the effect of diminishing marginal returns to a brand)	Active expansion (increasing marginal branding efficiency)
<b>International trade integration model</b>	Support for premium segments and high-tech exports	Scaling presence in medium and low-tech segments with a gradual transition to high-tech ones
<b>Function in international trade</b>	Maintaining leadership in global value chains	Expanding participation in global value chains and diversifying markets
<b>Type of impact on trade regimes</b>	Institutional control through international organizations and standards	Parallel creation of alternative institutions and financial mechanisms
<b>Expected long-term effect</b>	Maintaining stability, but increasing competition	Strengthening positions and gradual shift of centres of trade influence

Source: created by the authors

A comparative analysis of soft power strategies indicates an asymmetry in their marginal effectiveness at different stages of the hegemonic cycle. While the United States is characterized by a saturation effect and a decline in the marginal returns to branding in global trade, China observes increasing returns from the integration of branding with production and infrastructure expansion.

China's nation branding strategy is implemented in four interconnected directions (Figure 2), encompassing macroeconomic expansion through the Belt and Road Initiative (BRI) and the Regional Comprehensive Economic Partnership (RCEP), as well as growing diplomatic influence in international institutions. At the same time, China's cultural and technological presence is being scaled up through a network of Confucius Institutes, global media (CGTN, Xinhua), and powerful digital ecosystems of corporations such as Huawei, TikTok, and Alibaba.



**Fig. 2. Strategic directions for strengthening China's nation branding**

Source: created by the authors

**Assessment of the impact of a nation branding on world trade indicators.** Currently, there are several main examples of assessing the nation branding of a state and its leadership on the world stage, which are expressed in the Nation Brand Value, Country Brand Index and the State Acceptance Research Methodology developed by CFC Consulting (Varibusova, 2018, pp. 6–7). In this work, Nation Brand Value is considered as the main indicator of the influence on the state's activities in international trade.

In order to empirically test the role of the nation branding in international trade, we put forward a hypothesis, namely:

$H_0$ : *The impact of the nation branding as an element of soft power on China's export performance is statistically more significant than the corresponding impact of the US nation branding.*

In accordance with this hypothesis, a macroeconomic model was constructed, where the endogenous variable is the export indicator, and the exogenous variables are the GDP level, the economic openness index, and the Brand Value indicator, which is published annually by Brand Finance as part of an international study of nation branding perception (Brand Finance, n.d.).

Separately, dummy variables were introduced that, in interaction with the nation branding index, help to identify differences in the impact of soft power on the export performance of these countries compared to other sample states. A non-linear model was previously formed in the following form:

$$y = a_0 + a_1 \times x_1 + a_2 \times x_2 + a_3 \times x_3 + a_4 \times x_4 + a_5 \times x_5 + a_6 \times x_6,$$

where in addition to the coefficients of the model ( $a_0, a_1, a_2, a_3, a_4, a_5, a_6$ ) there are also:

$y$  – dependent variable, country's export indicator (billion USD);

$x_1$  – indicator of the value of the nation branding as an element of the country's soft power (billion USD) (its linear impact on the relationship with the country's export volumes);

$x_2$  – indicator of the value of the nation branding as an element of the country's soft power (billion USD) (its nonlinear impact on the relationship with the country's export volumes);

$x_3$  – an indicator of the combination of the value of the nation branding with the dummy variable of China, which demonstrates how the brand impact for China differs from the base effect of the nation branding (billion USD);

$x_4$  – an indicator of the combination of the value of the nation branding with the dummy variable of the USA, which demonstrates how much the impact of the brand on exports for the States differs from the base effect of the nation branding (billions USD);

$x_5$  – GDP level (billion USD);

$x_6$  – country's economic openness index (%).

The sample included the following countries: China and the USA as the main objects of the study, as well as Germany, Japan and the United Kingdom as the reference group (Table 3). The time period includes the period from 2020 to 2024, as complete data for 2025 for individual indicators was not published at the time of the study.

Table 3

**Panel data for econometric modelling, 2020-2024**

Country	Year	Export indicator, billion USD	Country brand value, billion USD	GDP, billion USD	Country openness index, %	Dummy variable (China)	Dummy variable (USA)
USA	2020	1370,00	23738,34	21400,00	23,08	0	1
	2021	1680,00	24811,19	23700,00	25,21	0	1
	2022	1980,00	26472,20	26000,00	26,89	0	1
	2023	1900,00	30309,11	27700,00	24,90	0	1
	2024	2063,80	32271,14	29200,00	24,89	0	1
China	2020	2660,00	18764,30	15000,00	34,04	1	0
	2021	3350,00	19851,30	18200,00	36,52	1	0
	2022	3640,00	21528,24	18300,00	37,44	1	0
	2023	3410,00	23085,11	18300,00	36,11	1	0
	2024	3576,54	19960,02	18700,00	37,20	1	0
Germany	2020	1340,00	3812,94	3940,00	72,99	0	0
	2021	1570,00	4335,17	4350,00	80,16	0	0
	2022	1600,00	4503,87	4160,00	89,06	0	0
	2023	1620,00	5075,97	4530,00	82,80	0	0
	2024	1630,71	4985,35	4660,00	80,34	0	0
Japan	2020	659,00	4261,27	5050,00	31,34	0	0
	2021	775,00	4424,45	5040,00	36,74	0	0
	2022	778,00	4284,35	4260,00	46,81	0	0
	2023	737,00	4448,78	4210,00	45,15	0	0
	2024	707,39	4406,09	4030,00	45,20	0	0
Great Britain	2020	390,00	3314,56	2700,00	58,78	0	0
	2021	428,00	3729,49	3140,00	58,58	0	0
	2022	461,00	4115,33	3110,00	68,88	0	0
	2023	452,00	4796,83	3370,00	65,03	0	0
	2024	508,69	4036,79	3640,00	62,41	0	0

Source: created by the authors based on (The Observatory of Economic Complexity, n.d.a-e; TheGlobalEconomy.com, n.d. a-e; TRADING ECONOMICS, n.d. a-e)

Table 3 shows the main input data used in building the model. Before conducting regression analysis, they required several modifications, so at the first stage, export indicators, brand value, and GDP level were logarithmized, which allowed smoothing out data asymmetry and interpreting the results in relative values. Separately, the logarithmic brand value variable was centred by subtracting the mean, which allowed it to be interpreted as a deviation from the mean in the sample, and this further allowed us to estimate the linear effect of the brand on exports and answer the question “what happens to a country’s export activity when the nation branding occupies a stronger position.” To consider the possible nonlinear effect of the influence of brand value on the dependent variable, the square of the cantered logarithmic variable was included in the model. The processed data are collected in Table 4.

Table 4

## Logarithmic transformations of variables for model

Country	Year	ln (y)	ln (x1)_c	(ln (x1)_c)^2	ln (x1) * Dummy variable (China)	ln (x1) * Dummy variable (USA)	ln (x4)	Country openness index, %
USA	2020	7,22	1,12	1,26	0,00	10,07	9,97	23,08
	2021	7,43	1,16	1,36	0,00	10,12	10,07	25,21
	2022	7,59	1,23	1,51	0,00	10,18	10,17	26,89
	2023	7,55	1,37	1,86	0,00	10,32	10,23	24,90
	2024	7,63	1,43	2,04	0,00	10,38	10,28	24,89
China	2020	7,89	0,89	0,78	9,84	0,00	9,62	34,04
	2021	8,12	0,94	0,89	9,90	0,00	9,81	36,52
	2022	8,20	1,02	1,05	9,98	0,00	9,81	37,44
	2023	8,13	1,09	1,19	10,05	0,00	9,81	36,11
	2024	8,18	-1,36	1,84	7,60	0,00	9,84	37,20
Germany	2020	7,20	-0,71	0,50	0,00	0,00	8,28	72,99
	2021	7,36	-0,58	0,34	0,00	0,00	8,38	80,16
	2022	7,38	-0,54	0,29	0,00	0,00	8,33	89,06
	2023	7,39	-0,42	0,18	0,00	0,00	8,42	82,80
	2024	7,40	-0,44	0,19	0,00	0,00	8,45	80,34
Japan	2020	6,49	-0,60	0,36	0,00	0,00	8,53	31,34
	2021	6,65	-0,56	0,31	0,00	0,00	8,53	36,74
	2022	6,66	-0,59	0,35	0,00	0,00	8,36	46,81
	2023	6,60	-0,55	0,31	0,00	0,00	8,35	45,15
	2024	6,56	-0,56	0,32	0,00	0,00	8,30	45,20
Great Britain	2020	5,97	-0,85	0,72	0,00	0,00	7,90	58,78
	2021	6,06	-0,73	0,53	0,00	0,00	8,05	58,58
	2022	6,13	-0,63	0,40	0,00	0,00	8,04	68,88
	2023	6,11	-0,48	0,23	0,00	0,00	8,12	65,03
	2024	6,23	-0,65	0,42	0,00	0,00	8,20	62,41

Source: calculated by the authors based on (The Observatory of Economic Complexity, n.d.a-e; TheGlobalEconomy.com, n.d. a-e; TRADING ECONOMICS, n.d. a-e)

During the work, the following model was obtained:

$$\ln(y) = -11,28 + 0,05 \times \ln(x_1) - 0,17 \times \ln(x_2) - 0,11 \times (x_3) - 0,21 \times (x_4) + 2,03 \times \ln(x_5) - 0,02 \times (x_6) + \varepsilon,$$

where:

y – export indicator;

x<sub>1</sub> – a centred indicator of the value of the nation branding, which demonstrates a linear relationship between the brand and the country's export volumes;

x<sub>2</sub> – centred squared nation branding value indicator, demonstrating the nonlinear relationship between the brand and the country's export volumes;

x<sub>3</sub> – an indicator that demonstrates how similar the impact of China's nation branding on its export capacity is to the reference group;

x<sub>4</sub> – an indicator that demonstrates how similar the impact of the US nation branding on its export capacity is to that of a reference group;

x<sub>5</sub> – GDP level of countries;

x<sub>6</sub> – country's economic openness index.

The results of the econometric evaluation of the proposed model confirm its high explanatory power and statistical reliability, which is reflected in the summary regression indicators (Table 5).

Table 5

**General statistical characteristics of the regression model**

Indicator	Value
Multiple R	0,9806
R Square	0,9616
Adjusted R Square	0,9487
Standard Error	0,1639
Observations	25

Source: calculated by the authors

High values of multiple correlation and determination coefficients confirm the general adequacy of the constructed model, which allows us to proceed to a detailed analysis of the influence of each individual variable (Table 6).

Table 6

**Estimation of regression model parameters**

Variable	Coefficient	Standard error	P-value
Intercept	-11,2758	1,7361	$4,1572 \times 10^{-6}$
X Variable 1	0,0486	0,1268	0,7056
X Variable 2	-0,1698	0,1849	0,3704
X Variable 3	-0,1087	0,0454	0,0276
X Variable 4	-0,2087	0,0592	0,0024
X Variable 5	2,0314	0,2083	$1,3124 \times 10^{-8}$
X Variable 6	0,0198	0,0025	$2,7445 \times 10^{-7}$

Source: calculated by the authors

The main results show that the model is statistically significant and characterized by high explanatory power, the coefficient of determination indicates the explanation of about 95% of the variation in export indicators. A statistically significant positive effect of the value of the nation branding on export volumes was obtained near the average level of the variable, which confirms the presence of a positive impact of soft power on the state's trade positions. At the same time, the square of the centred logarithm of the brand value received a negative coefficient and showed low statistical significance, which, in combination with a positive linear component, may indicate the nonlinear nature of the relationship between the strength of the nation branding and exports. From the statistical data it is noticeable that when a nation branding shows stable growth from year to year, the export activity of the state is more influenced by external factors of the international environment, leaving room for error in this model, therefore it is not excluded that there is a certain threshold of brand value, after which the direct connection with the country's export capacity disappears. Describing the synthesis of brand value with fixed variables of China and the USA, it can be noted that for China the marginal effect of the brand is smaller compared to the reference group, while for the USA the additional growth of the strength of the nation branding is accompanied by a decreasing return in exports. Control variables, including GDP and the trade openness index, demonstrate the expected positive and statistically significant effect on exports. The results indicate the presence of a nonlinear effect of the nation branding on export performance and highlight the difference in the role of soft power for countries with different levels of international visibility.

The hypothesis that the impact of the nation branding on China's export performance is statistically more significant than the corresponding impact for the United States has not been empirically confirmed, i.e. it is impossible to claim the superiority of the brand effect for China compared to the United States. However, the results of the regression analysis allow us to draw an important conclusion about the nature

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of the paradox of China's brand in world trade: a larger volume of exports with a lower Brand Value is explained not by the weakness of the brand, but by the dominance of production and price factors. However, as the added value of Chinese exports increases and China advances into technological niches, the role of Brand Value as a trade determinant will increase.

**Conclusions.** Thus, amidst the transformation of the international economy, the nation branding becomes a full-fledged instrument of soft power and a strategic competitive advantage in international trade. Empirical analysis has proven that the nation branding does indeed contribute to strengthening the export positions of the state, however, its impact is nonlinear and significantly depends on the conditions for the formation and development of the state's soft power, accordingly, the stage of development of the nation branding plays an important role in competitive conditions. In the context of the confrontation between the USA and China, for the first state, which already occupies a leading position in the world and has significant influence, additional strengthening of the brand is accompanied by a decreasing return on exports, which indicates the effect of saturation of soft power, and also further highlights its intangible nature, which is difficult to fully assess. At the same time, for China, the nation branding remains an important tool that increases its potential.

For the nation branding to become a real driver of Chinese exports, several prerequisites must be met: 1) an increase in the share of goods with high added value in the export structure (transition from "Made in China" to "Created in China"); 2) an increase in the global ranking of Chinese universities and research institutions, which forms the reputation of an innovation centre; 3) successful positioning of technology brands (Huawei, Xiaomi, BYD) in the premium segments of the markets of developed countries. The implementation of these conditions will turn the nation branding into a full-fledged driver of Chinese exports.

The significance of the GDP and openness index variables in the econometric model confirms that the established hegemon position is currently firmly occupied by the United States. At the same time, as the technological development of the Chinese economy and the growth of the share of high-value-added products increases, the role of Brand Value as a trade determinant of the PRC will inevitably grow. The practical significance of the results is that strategic investments in nation branding are more effective for countries at the stage of technological transition than for established hegemons, where the marginal efficiency of such investments is decreasing, which outlines a promising direction for further research with an expansion of the geographical and sectoral coverage of the sample.

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## НАЦІОНАЛЬНИЙ БРЕНД КРАЇНИ ЯК ІНСТРУМЕНТ М'ЯКОЇ СИЛИ В МІЖНАРОДНІЙ ТОРГІВЛІ: ПРИКЛАД КИТАЮ

**Тетяна ПАЛІЄНКО,**

*старший викладач кафедри економічної теорії  
Національного університету «Києво-Могилянська академія»  
доктор філософії з економіки  
t.paliienko@ukma.edu.ua  
orcid.org/0000-0002-5978-0721*

**Аліна КАЛЮГА,**

*студентка кафедри економічної теорії  
Національного університету «Києво-Могилянська академія»  
a.kaliuha@ukma.edu.ua  
orcid.org/0009-0007-0536-3723*

**Мета.** У статті досліджується феномен національного бренду як інструменту м'якої сили держави в контексті міжнародної торгівлі на прикладі Китайської Народної Республіки. На тлі загострення геоекономічного суперництва між США та Китаєм нематеріальні фактори впливу набувають особливого значення, проте залишаються недостатньо вивченими в науковій спільноті. Метою цього дослідження є виявлення впливу національного бренду Китаю у підтримці позицій країни в міжнародній торгівлі в умовах домінування США та кількісна оцінка цієї ролі.

**Методи.** Методологія дослідження поєднує огляд теоретичних досліджень з теорій м'якої сили, національного брендингу та гегемонної стабільності з порівняльним статистичним аналізом. В емпіричному дослідженні використовується регресійна модель (МНК) на основі даних п'яти провідних економік (США, Китай, Німеччина, Японія та Велика Британія) за період 2020–2024 років. Модель використовує показники експорту як залежну змінну, а ВВП, індекс економічної відкритості та цінність національного бренду – як екзогенні змінні, включаючи фіктивні змінні для розрізнення ефектів для Китаю та США. **Результати.** На відміну від США, які діють як усталений гегемон, що захищає статус-кво, Китай виступає зростаючим

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претендентом, чия стратегія спрямована на активну експансію та переформатування міжнародних режимів. Аналіз виявив, що стратегічне зміцнення національного бренду Китаю базується на чотирьох векторах: економічному (ініціатива BRI та зона RCEP), культурному (мережа Інститутів Конфуція), технологічному (Huawei, TikTok, Alibaba) та дипломатичному. Хоча позитивний вплив вартості бренду на експорт був виявлений поблизу середнього значення, дослідження виявило нелінійний зв'язок, що характеризується зменшенням граничної прибутковості, особливо для США. Для Китаю граничний ефект бренду залишається нижчим, ніж у референтній групі, оскільки його експортне домінування наразі більше зумовлене ефективністю виробництва та ціновими факторами, ніж власним капіталом бренду.

**Висновки.** Гіпотеза про те, що вплив національного бренду Китаю є статистично більш значущим, ніж вплив США, не була емпірично підтверджена. Однак дослідження підкреслює парадокс бренду Китаю у світовій торгівлі: хоча цінність його бренду наразі є вторинною порівняно з виробничими потужностями, його значення, за прогнозами, зростатиме, оскільки КНР переходить у високотехнологічні ніші та збільшує експорт з доданою вартістю. Зрештою, національний бренд служить важливим операційним механізмом для інтеграції м'якої сили у світову торгівлю.

**Ключові слова:** міжнародна економіка, нематеріальні активи, вартість бренду, конкурентоспроможність, ефект країни походження, глобальне лідерство, геоekonomіка, експорт, відкритість торгівлі.



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## INFORMATION AND LEGAL RISKS OF THE DIGITAL TRANSFORMATION OF THE PERSONNEL TRAINING SYSTEM FOR THE STATE PENITENTIARY SERVICE OF UKRAINE AMID AUTOMATION AND CYBER THREATS

**Aim.** The primary objective of this article is to analyse the information and legal risks arising during the digital transformation of the personnel training system within the State Penitentiary Service of Ukraine. In the contemporary environment, characterised by the digitalisation of educational processes, the automation of administrative procedures, and the increasing complexity of cyber threats, it is essential to examine how these technological developments interact with existing legal frameworks. Particular attention is paid to issues of information protection, personal data processing, and the legal regulation of digital educational resources used in professional training. The study also aims to substantiate directions for improving the legal and organisational mechanisms of information security within the personnel training system.

**Methods.** The research methodology combines general scientific principles with specialised legal methods. The formal-legal method was applied to analyse national legislation and departmental regulatory acts concerning information protection and personal data processing. The comparative-legal method was used to compare Ukrainian regulatory approaches with European standards, particularly the General Data Protection Regulation (GDPR) and relevant European Union cybersecurity directives. Systemic-structural, analytical, and logical-legal methods were also employed to identify legislative gaps, organisational shortcomings, and risks associated with the implementation of automated and algorithmic systems in the professional training of law enforcement and correctional personnel.

**Results.** The findings demonstrate that the digitalisation of personnel training is accompanied by increased risks related to the violation of the principles of legality, proportionality, and purpose limitation in information processing. The research reveals an insufficient level of information security culture, fragmented legal regulation, and uncertainty regarding the legal status of digital educational resources. The introduction of algorithmic assessment systems without adequate legal oversight may reduce transparency and potentially affect the rights of personnel.

**Conclusions.** The study concludes that it is necessary to establish a coherent information and legal mechanism for personnel training that combines effective legal regulation, organisational measures, and internal control procedures with the development of digital and legal competencies among personnel. Harmonisation with European standards is an important prerequisite for strengthening cybersecurity and institutional trust in digital technologies in the public sector.

**Key words:** Public Sector Information Security, Protection of Personal Data, Digitalisation of Public Administration, Cyber Risks in Educational Systems, Automated Decision-Making, Legal Regulation of Digital Technologies, Digital Competencies of Personnel.

**JEL Classification:** H11, K24, H83, O33, D81, K20, I28.

### Dmytro POKRYSHEN,

Director of the Educational and Scientific Institute of Law, Law Enforcement and Psychology Penitentiary Academy of Ukraine  
PhD in Pedagogical Sciences,  
Associate Professor  
[pokryshen@ukr.net](mailto:pokryshen@ukr.net)  
[orcid.org/0000-0001-9572-413X](https://orcid.org/0000-0001-9572-413X)

**Introduction.** The digital transformation of the personnel training system within the State Penitentiary Service of Ukraine (SPSU) is occurring under conditions of heightened information, legal, and security risks. These risks are driven by the specific nature of the SPSU's activities, which involve processing substantial volumes of confidential information, special categories of personal data, and restricted official information. The introduction of electronic educational platforms, automated systems for recording learning outcomes, algorithmic assessment tools, and digital HR management services brings to the fore the issues of compliance with information legislation and the principles of legality, proportionality, and purpose limitation.

An insufficient culture of information security among SPSU personnel, the fragmented legal regulation of digital processes, the lack of a comprehensive information security concept in the field of vocational training, and the limited integration of European

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standards—specifically the provisions of the GDPR and EU cybersecurity acts—significantly increase the risks of violating the rights of data subjects, data breaches, and a decline in trust in digital tools. Under these circumstances, the scholarly reflection on the information and legal risks of digitalising the training of SPSU personnel is of paramount relevance.

The current stage of development of the State Penitentiary Service of Ukraine is characterised by the active implementation of digital technologies in the system of professional training and continuous professional development. The use of electronic educational resources, distance learning platforms, automated assessment systems, and elements of algorithmic management contributes to the optimisation of educational processes and increases their efficiency. At the same time, such processes create new information and legal challenges related to ensuring the protection of personal data, official information, and the upholding of the rights of SPSU personnel. The absence of a clear legal definition for the status of digital educational resources, insufficient internal control over compliance with information security policies, and the low level of digital competence among certain categories of personnel reinforce the impact of the human factor on the state of cybersecurity. In this context, there is a need for a comprehensive information and legal analysis of the risks associated with the digital transformation of the SPSU personnel training system.

**Aim and Objectives of the Study.** The aim of the study is to conduct a comprehensive analysis of the information and legal risks of the digital transformation of the personnel training system of the State Penitentiary Service of Ukraine and to substantiate the directions for improving the legal regulation and organisational mechanisms for ensuring information security.

To achieve this aim, the following objectives have been defined: To analyse the legal risks of processing and protecting information in the process of training SPSU personnel; To investigate the impact of automated and algorithmic systems on the exercise of the rights of personnel and participants in educational programmes; To assess the state of legal provision for an information security culture and internal control within the SPSU system; To identify the problems of implementing European data protection standards into national personnel training practices; To formulate proposals for the development of a comprehensive information and legal concept for the digital training of SPSU personnel.

**Research Methods.** The methodological foundation of this study is comprised of a combination of general scientific and specialised legal methods of enquiry. The **formal-legal method** was employed to analyse the norms of Ukrainian national legislation, departmental regulatory acts of the SPSU, and international instruments in the field of information security and personal data protection. The **comparative-legal method** was applied to contrast national regulatory approaches to digital educational processes with European standards, specifically the provisions of the **GDPR**, the **NIS Directive**, and the **Cybersecurity Act**. The **systemic-structural method** allowed for the conceptualisation of the SPSU personnel training system as a cohesive information-legal framework with interconnected organisational, legal, and technical elements. Furthermore, **analytical and logical-legal methods** were used to identify legal lacunae, conflicts, and risks arising during the digitalisation and automation of educational and administrative procedures.

**Literature Review.** In scientific literature, the implementation of management systems within the penitentiary sector is regarded as a key direction of digital transformation, aimed at replacing paper-based procedures with integrated, offender-oriented databases and unified information systems to support admission processes, individual case management, and inter-agency reporting. Case analysis indicates that the fundamental functionality of such systems is the end-to-end recording of a prisoner's life cycle—from initial admission and classification to participation in programmes and eventual release—which ensures the integrity of managerial decisions and increases administrative efficiency (Kathuria & Porporino, 2015). Specifically, the **Offender Management Information System (OMIS)** implemented in Namibia illustrates the capabilities of systemic accounting for key data on convicts at all stages of their stay in a correctional facility; it also demonstrates the functional advantages and implementation requirements for similar solutions in resource-constrained environments, particularly regarding human capital, funding, and personnel training (Kathuria & Porporino, 2015).

Practical examples of developing simplified online management systems for penitentiary institutions, notably in Nigeria, confirm that tangible results can be achieved in terms of data accessibility, the creation of a unified offender profile, and increased operational efficiency through the use of standard web and database technologies (Ilemona, 2013). At the same time, research substantiates the necessity of introducing

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departmental statistical accounting and creating data warehouses or unified information systems as a prerequisite for full process automation and the establishment of inter-departmental information exchange. It is emphasised that the successful implementation of management information systems requires stable funding, qualified IT personnel, end-user training programmes, and clear mechanisms for data quality management and interoperability (Kathuria & Porporino, 2015).

In parallel with the development of management systems, security and monitoring technologies in penitentiary institutions are transforming, evolving from basic CCTV and access control to complex embedded infrastructures and analytical solutions. However, their design is largely determined by institutional values and is accompanied by risks of excessive surveillance and the restriction of prisoners' rights. Modern analytical studies highlight both the security benefits of digital systems and the ethical and socio-technical trade-offs that arise during their integration into penitentiary infrastructure (Van De Steene & Knight, 2017; Hofinger & Pfliegerl, 2024; Ross et al., 2024).

Scientific reviews distinguish between two main groups of technologies: firstly, solutions embedded to strengthen authoritative control and surveillance, and secondly, technologies aimed at meeting the communication and educational needs of convicts—between which there is often a tension of goals and practices (Ross et al., 2024). Empirical and theoretical studies suggest that digitalisation, in the absence of a clear needs-based orientation, can lead to the expansion of surveillance practices, the delegation of responsibility to technology, and the deepening of social inequality, resulting in ambiguous consequences for individuals serving sentences (Hofinger & Pfliegerl, 2024). A separate area of contemporary debate concerns the potential of **Artificial Intelligence (AI)** and automation to normalise the custodial environment and support rehabilitation processes; however, researchers stress the need for prior diagnostic planning to identify potential risks, biases, and the requirements for proper governance of such technologies before their practical implementation (López Lorca, 2023). Simultaneously, it is underlined that the design and accessibility of technology in the correctional sphere are significantly shaped by institutional culture, bureaucratic practices, and societal perceptions, which can either limit or distort the set of tools actually developed and applied in practice (Ross et al., 2024).

**Research Results.** The lack of a developed information security culture among SPSU personnel is a significant risk factor for the effective functioning of personnel training systems within the digital environment. Despite the existence of regulatory requirements for information protection, employees frequently fail to adhere to the fundamental principles of secure engagement with electronic resources. This is manifested in breaches of access policies, the use of weak passwords, the negligent handling of confidential data, and insufficient attention to software updates. The absence of a conscious attitude towards cybersecurity threats undermines the effectiveness of technical security measures and creates risks of incidents stems from the human factor, highlighting the necessity for the systematic formation of an information security culture through regular training, briefings, and methodological support for personnel.

A low level of internal control over compliance with security policies significantly complicates the effective management of information risks during personnel training and institutional operations. The absence of systematic monitoring, auditing, and assessment of the implementation of established rules and procedures allows violations to remain undetected, which increases the likelihood of confidential information leaks and unauthorised access to critical data. Furthermore, insufficient accountability and oversight foster a passive attitude among staff regarding policy compliance, reducing the efficacy of technical and organisational cyber-defence measures. In these circumstances, the introduction of regular internal audits, access control mechanisms, and systematic verification of regulatory compliance is key to enhancing the resilience of the information infrastructure and minimising risks associated with the human factor.

The legal risks associated with the collection of data on training outcomes and the professional activities of personnel are linked to the necessity of adhering to the principles of legality, proportionality, and purpose limitation, as enshrined in national and European legislation. Unregulated procedures for the collection, processing, and storage of data may lead to the violation of data subjects' rights, particularly the right to privacy and confidentiality. It also creates a potential threat to personnel through the unlawful use of assessment results or professional activity records. Moreover, the absence of clear internal policies and oversight regarding legislative compliance increases the risk of administrative and criminal liability for the institution, which limits the effectiveness of information systems in the training process and diminishes personnel trust in digital technologies and electronic services.

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The challenges of automated decision-making within the educational process are related to the need to balance the efficiency of digital technologies with the requirements of legality, transparency, and fairness in decisions affecting personnel. The use of algorithmic systems for knowledge assessment, candidate selection, or the management of learning trajectories can result in opaque procedures, model biases, and limited human oversight. Imperfections in algorithms, inadequate data quality control, and the lack of methodologies for risk assessment in automated systems create the threat of unlawful decisions that may infringe upon the rights of employees or trainees, thereby undermining trust in electronic educational platforms.

Furthermore, automation requires a high level of personnel competence in information technology and cybersecurity; its absence complicates the proper operation of systems and the timely detection of errors or failures. Challenges also arise from the necessity to align automated procedures with national legislation and international standards, particularly the GDPR, which mandates control over the lawfulness of data processing and the protection of data subjects' rights. Thus, the implementation of automated solutions within the educational process requires a comprehensive approach that integrates technical, organisational, and legal aspects.

A lack of modern research on cybersecurity within the public service and the penitentiary system limits the capacity for evidence-based managerial decision-making and the development of effective information protection measures. Existing scholarly works mostly address general aspects of cybersecurity or technology applications in the private sector, while the specificities of state institutions and penitentiary facilities—including handling confidential data and high-risk personnel—remain insufficiently explored. This creates gaps in training methodology, security standards, and information risk management policies, complicating the adaptation of international practices and hindering the formation of a cohesive cyber-resilience system tailored to the specific needs of the public service and the penitentiary sphere.

The low level of integration of scientific results into training practices leads to a fragmented personnel training process that lags behind modern challenges of digitalisation and cybersecurity. Developments in information security, risk management methodologies, and data protection standards often remain theoretical or are applied selectively, reducing the effectiveness of educational programmes and complicating the development of practical competencies among personnel. Consequently, educational institutions cannot fully employ advanced scientific approaches to adapt to international standards, ensure the security of information systems, and enhance the quality of the digital transformation of the public service and the penitentiary system.

Resistance to digital change and a lack of trust in electronic systems among personnel significantly complicate the implementation of innovations in personnel training and information resource management. Stereotypical attitudes towards traditional working methods, fear of new technologies, and concerns regarding data security result in low engagement with electronic platforms, distance learning systems, and automated assessment tools. Such resistance slows down the digital transformation process, reduces the efficiency of personnel training, and increases information security risks due to insufficient awareness and an inability to interact correctly with modern information systems.

Low motivation to enhance digital competence among personnel negatively impacts the effectiveness of information technology implementation and compliance with cybersecurity requirements during training. Employees often fail to see immediate benefits in developing skills related to electronic systems, data management, and information protection, leading to a perfunctory or incomplete mastery of training programmes. This situation hinders the establishment of a unified level of digital literacy, reduces the efficiency of institutional digital transformation, and increases the vulnerability of information infrastructure to incidents caused by the human factor.

Fears of job loss due to digitalisation and automation create psychological and organisational barriers to innovation in personnel training and information resource management. Employees who perceive automated systems and electronic services as a threat to their professional positions often demonstrate resistance to new technologies, limited engagement in training, and minimal initiative in using digital tools. This attitude slows the digital transformation process, reduces the effectiveness of cyber-defence measures, and prevents the formation of a unified information security culture, ultimately increasing the risks of unauthorised data access and violations of institutional information policies.

Stress factors associated with the intensive implementation of new technologies significantly affect the effectiveness of personnel training and adaptation to the digital environment. Frequent changes in software,

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the necessity of mastering complex information systems, and the continuous updating of skills create a psychological burden that can reduce productivity, concentration levels, and the ability of employees to use digital resources safely. This state increases the probability of errors, breaches of cybersecurity procedures, and uneven levels of digital competence among personnel, which, in turn, complicates the implementation of information security policies and the effective digital transformation of institutions.

The absence of a comprehensive information security concept in the field of personnel training is one of the key problems of modern state and educational policy. Existing regulatory acts and methodological recommendations mostly cover isolated aspects of cyber defence, personal data protection, or information risk management, yet they do not form a cohesive system that integrates all necessary components. Such fragmentation in legal and organisational regulation creates gaps in personnel training, reduces the effectiveness of information resource protection, and complicates the standardisation of educational programmes aimed at building digital security competencies.

The lack of a unified concept also complicates the integration of national standards with international norms, particularly the provisions of the GDPR, the Cybersecurity Act, and ENISA recommendations, which lowers the level of compliance of the Ukrainian personnel training system with European practices. Insufficiently clear legal and methodological approaches to information protection, access control, the maintenance of electronic registers, and the monitoring of cyber risks lead to increased vulnerability of institutions to cyber threats and legal risks, while also hindering the formation of an information security culture among employees. Thus, the absence of a comprehensive concept hampers effective digital transformation and the integration of modern technologies into the personnel training system.

The uncertainty of the legal status of information resources and educational infrastructure objects creates substantial problems for the effective functioning of the personnel training system. The lack of a clear classification for electronic educational resources, digital platforms, and databases complicates the definition of users' rights and obligations, the procedures for information access, and responsibility for its processing. This leads to the ambiguous application of legislative norms governing information security and personal data protection, thereby reducing the effectiveness of organisational and technical information protection measures.

Legal uncertainty regarding the status of educational infrastructure objects also increases the risks of violating the confidentiality and integrity of information resources. The absence of unified standards for regulating electronic services and distance learning platforms complicates access control, data usage monitoring, and the assurance of security, which, in turn, creates potential threats for personnel and trainees. This situation necessitates the development of clear regulatory approaches and methodological recommendations to define the legal status of digital educational resources and educational infrastructure systems.

Insufficient personnel competence in the field of digital transformation and cybersecurity significantly limits the effectiveness of implementing modern information technologies in the training process. Low levels of digital literacy, a limited understanding of cybersecurity principles, and a lack of skills in working with electronic systems create preconditions for security policy violations and the inefficient use of electronic services, thereby increasing the risk of incidents associated with the human factor.

Furthermore, insufficient personnel training complicates the implementation of international standards, which negatively impacts the integration of the national training system into the European legal and technological space. The absence of a systemic approach to professional development and regular training in cybersecurity limits the capacity of institutions to provide comprehensive protection for information resources, maintain the continuous development of electronic services, and foster an information security culture among employees.

The legal and organisational risks associated with the implementation of digital technologies and algorithmic systems in personnel training are linked to the necessity of ensuring the legality, transparency, and accountability of automated processes. The use of electronic platforms for knowledge assessment, the management of learning trajectories, and the processing of personal data may lead to violations of the rights of employees and trainees in cases of inadequate oversight, opaque algorithms, or system errors. The lack of regulation regarding the use of algorithmic solutions increases the risk of legal claims and adversely affects personnel trust in digital tools.

Moreover, the integration of digital technologies into educational processes is complicated by conflicts between national and European legislation. The insufficient integration of international

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standards into internal institutional regulations creates gaps in data protection, access control, and the auditing of information systems. Consequently, the efficiency of the digital transformation of personnel training is reduced, while the risks of unauthorised access, data leaks, and violations of data subjects' rights remains high, necessitating the development of clear legal and organisational regulatory mechanisms.

The analysis of the information-legal framework for personnel training reveals systemic lacunae in national legislation and regulatory acts. The absence of a comprehensive information security concept, along with the uncertainty of the legal status of information resources and educational infrastructure objects, creates legal conflicts and gaps that complicate the assurance of legality and accountability in the management of personnel data. Such deficiencies increase the risks of violating the rights of data subjects and limit the capacity of state institutions to fulfill the requirements of international law regarding data protection and cybersecurity.

Insufficient personnel competence in the field of information law and cybersecurity exacerbates legal risks, as it limits the ability of subjects to comply with established policies, regulatory acts, and data processing standards. The imperfection of internal regulations, the absence of systematic oversight, and the uneven application of legislative requirements create a basis for unauthorised access to information, breaches of confidentiality, and non-compliance with the principles of legality, proportionality, and purpose limitation enshrined in national laws and EU provisions, specifically the GDPR and the NIS Directive.

The formation of an effective information-legal system for personnel training requires the creation of a unified legal and methodological framework that integrates cyber-defence measures, rules for processing personal data, and mechanisms for monitoring legislative compliance. The introduction of clear procedures, regular auditing, and professional development for personnel in the field of information law will allow for the reduction of legal risks, ensure the accountability of state bodies, and guarantee the alignment of the national training system with international standards in information protection and cybersecurity.

**Conclusions.** The study establishes that the digital transformation of the personnel training system of the State Penitentiary Service of Ukraine is accompanied by significant information and legal risks, driven by the specific nature of official activities, fragmented regulatory frameworks, and an insufficient level of information security culture. The use of automated and algorithmic systems in the educational process without adequate legal regulation and oversight increases the risks of infringing upon personnel rights, opacity in assessment procedures, and the unlawful processing of personal data.

The absence of a unified, comprehensive information security concept for SPSU personnel training and the uncertainty regarding the legal status of digital educational resources complicate the integration of European standards and weaken the cyber-resilience of the departmental information infrastructure. The study substantiates the necessity of forming a cohesive information-legal mechanism for the training of SPSU personnel, which combines legal regulation, effective internal control, the systematic enhancement of digital and legal competencies, and the harmonisation of national norms with international cybersecurity standards.

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## ІНФОРМАЦІЙНО-ПРАВОВІ РИЗИКИ ЦИФРОВОЇ ТРАНСФОРМАЦІЇ СИСТЕМИ ПІДГОТОВКИ ПЕРСОНАЛУ ДЕРЖАВНОЇ КРИМІНАЛЬНО-ВИКОНАВЧОЇ СЛУЖБИ УКРАЇНИ В УМОВАХ АВТОМАТИЗАЦІЇ ТА КІБЕРЗАГРОЗ

Дмитро ПОКРИШЕНЬ,

директор Навчально-наукового інституту права, правоохоронної діяльності та психології

Пенітенціарної академії України

кандидат педагогічних наук, доцент

[pokryshen@ukr.net](mailto:pokryshen@ukr.net)

<https://orcid.org/0000-0001-9572-413X>

**Мета.** Основною метою дослідження є здійснення комплексного правового та наукового дослідження інформаційно-правових ризиків, що виникають у процесі цифрової трансформації системи підготовки персоналу Державної кримінально-виконавчої служби України. У сучасних умовах, які характеризуються широкою автоматизацією освітніх процесів та стрімким зростанням складних кіберзагроз, особливого значення набуває аналіз взаємодії таких технологій із чинними правовими механізмами регулювання. Також обґрунтовуються стратегічні напрями удосконалення правових та організаційних засад забезпечення інформаційної безпеки у сфері професійної підготовки персоналу. Особлива увага приділяється необхідності узгодження процесів цифровізації державних інституцій із принципами верховенства права, належного врядування та ефективності адміністративної діяльності.

**Методи.** Методологічну основу дослідження становить поєднання загальнонаукових принципів пізнання та спеціальних юридичних методів дослідження. Формально-юридичний метод застосовано для аналізу національного законодавства та відомчих нормативно-правових актів, що регулюють питання захисту інформації та персональних даних у сфері професійної підготовки персоналу. З метою забезпечення міжнародної релевантності дослідження використано порівняльно-правовий метод, який дозволив зіставити українські підходи до правового регулювання із європейськими стандартами, зокрема положеннями Загального регламенту ЄС про захист даних (GDPR) та ключових директив Європейського Союзу у сфері кібербезпеки. Крім того, застосовано системно-структурний, аналітичний і логіко-правовий методи для виявлення прогалин у законодавстві, організаційних недоліків та специфічних ризиків, що виникають у процесі впровадження автоматизованих і алгоритмічних систем у професійну підготовку персоналу правоохоронних і пенітенціарних органів.

**Результати.** У результаті дослідження встановлено, що цифровізація системи підготовки персоналу супроводжується зростанням ризиків порушення принципів законності, пропорційності та цільового призначення під час обробки інформації. Виявлено недостатній рівень сформованості культури інформаційної безпеки, фрагментарність правового регулювання та невизначеність правового статусу окремих видів цифрових освітніх ресурсів. Обґрунтовано, що впровадження алгоритмічних систем оцінювання та управління освітнім процесом за відсутності належного правового контролю може призвести до зниження прозорості адміністративних процедур і потенційного порушення прав персоналу. Також встановлено, що обмежена імплементація європейських стандартів захисту даних підвищує рівень правових ризиків і кіберуразливостей у відомчій освітній інфраструктурі.

**Висновки.** Зроблено висновок про нагальну необхідність формування цілісного інформаційно-правового механізму підготовки персоналу, який має поєднувати ефективне правове регулювання, системні організаційні заходи та дієві внутрішні механізми контролю із послідовним підвищенням рівня цифрової та правової компетентності працівників. Обґрунтовано, що гармонізація національного законодавства з європейськими стандартами є ключовою передумовою підвищення кіберстійкості державних інституцій та формування інституційної довіри до використання цифрових технологій у публічному секторі.

**Ключові слова:** інформаційна безпека публічного сектору, захист персональних даних, цифровізація державного управління, кіберризик в освітніх системах, автоматизоване прийняття рішень, правове регулювання цифрових технологій, цифрові компетентності персоналу.



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## DIGITALISATION OF CUSTOMS AS A PREREQUISITE FOR INTEGRATION INTO THE EUROPEAN SPACE

**Purpose.** The article aims to provide a theoretical and practical substantiation of the digital transformation of customs administration as a “trust infrastructure” within the framework of Ukraine’s sectoral convergence with the European Union (EU), and to demonstrate how the standardization of data and procedures contributes to balancing legitimate trade facilitation with customs control.

**Methods.** The study employs an institutional and legal analysis of EU regulations and international standards related to the digitalization of customs procedures within the customs authorities of Ukraine. A comparative analysis of the functioning of digital customs systems and customs risk management mechanisms in the EU is applied, together with a content analysis of official strategic and policy documents. In addition, a systemic approach is used to generalize the role of digital technologies, electronic data exchange, and the Authorised Economic Operator (AEO) programme.

**Results.** The study substantiates that the digital rethinking of customs administration forms a “trust infrastructure” that ensures effective interaction between the state and business in international trade. It is established that the standardization of data, the implementation of electronic information exchange, and the use of integrated customs IT systems facilitate the transition to a risk-oriented model of customs control. The findings show that digital customs administration tools, including pre-arrival information systems and the AEO programme, improve the accuracy of risk profiling and allow control efforts to be focused on high-risk operations. It is also demonstrated that aligning Ukraine’s digital customs standards with EU practices enhances the effectiveness of customs risk management.

**Conclusions.** The article demonstrates that the digitalization of customs administration plays a key role in building a “trust infrastructure” that supports Ukraine’s integration into the EU customs and digital space. Standardized data and procedures within systems such as NCTS, ICS2, and SEED+ enable the transition to a risk-oriented model of customs control. The use of pre-arrival data and automated risk analysis shifts the focus from physical inspections to analytical risk profiling. Institutional trust mechanisms, particularly the AEO programme, strengthen cooperation between customs authorities and businesses. Overall, digital transformation improves data quality and ensures a balance between trade facilitation and effective customs risk management.

**Key words:** electronic data exchange, customs control, risk management, Authorised Economic Operator, foreign trade, customs logistics, customs simplification, European integration.

**JEL Classification:** F13, F15, H83, O33.

### Maksym RAZUMEI,

Associate Professor at the Department  
of Public Management and Customs  
Administration,  
University of Customs and Finance,  
PhD in Public Administration,  
Associate Professor  
[m.razumey@gmail.com](mailto:m.razumey@gmail.com)  
[orcid.org/0000-0003-3881-7879](https://orcid.org/0000-0003-3881-7879)

### Viktor KOVALOV,

Associate Professor at the Department  
of Public Management and Customs  
Administration  
University of Customs and Finance  
PhD in Public Administration,  
Associate Professor  
[vkovalov0@gmail.com](mailto:vkovalov0@gmail.com)  
[orcid.org/0000-0001-7249-0959](https://orcid.org/0000-0001-7249-0959)

**Introduction.** Ukraine’s European integration process has entered a phase of deep sectoral and institutional convergence, in which digitalization functions not as a mere “add-on” to reforms but as a systemic instrument for transforming public administration, the economy, and the legal environment (EC, 2026a). Within the EU enlargement cluster methodology, digital transformation and customs integration are primarily concentrated in Cluster 3, “Competitiveness and Inclusive Growth”, particularly in Chapter 10, “Digital Transformation and Media”, and Chapter 29, “Customs Union”. This framework establishes the parameters for the convergence of public administration mechanisms, procedures, and digital standards (CEU, 2025). Within this logic, digitalization is interpreted as a trust infrastructure of that reduces transaction costs, limits administrative discretion, and enhances the predictability of interactions between the state and business. The EU views Ukraine’s digital resilience as an element of the broader architecture of European security and economic stability, which is reflected in the scale of “Team Europe” support and in the linkage

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of financial assistance to the implementation of reforms and the achievement of specific indicators (EP, 2025). According to estimates by EU institutions, the total volume of support provided to Ukraine by the EU and its Member States amounts to approximately EUR 177.5 billion, encompassing financial, humanitarian, and military components. A strategic financial “anchor” is the Ukraine Facility, amounting to EUR 50 billion for the period 2024–2027. It is structured around three pillars, with the core component being budgetary support based on the Ukraine Plan, which includes a set of reforms and investment measures, accompanied by an enhanced system of audit and control (CEU, 2024). In this context, the economic rationale for digitalization lies not only in improving the quality of public services but also in strengthening competitiveness. For instance, analytics of Organisation for Economic Co-operation and Development (OECD) indicate that even a 1% reduction in global trade costs may generate an increase in global income or savings exceeding USD 40 billion. This positions digital and procedural reforms as a component of a “growth economy”, rather than merely an instrument of administrative modernization (OECD, 2018).

The development of IT synergy between Ukraine and the EU unfolds across three complementary dimensions. First, it involves the modernization of customs and logistics infrastructure through the implementation of interoperable IT frameworks for transit and data exchange, primarily aimed at enhancing customs risk management. In this regard, Ukraine launched the application of NCTS Phase 5 on 22 April 2024, which is critically important for the standardization of transit procedures and for aligning them with the practices of the Common Transit system in Europe (DMSU, 2026a). Second, convergence is taking place with the European legal framework governing electronic identification and trust services (eIDAS) and with the broader objectives of the Digital Single Market (DSM), where key priorities include the mutual recognition of electronic identification means, legal certainty of electronic transactions, and the interoperability of digital services (EC, 2015). Third, Ukraine is strengthening its participation in supranational programmes aimed at developing digital capacities and infrastructure. In particular, this includes association with the Digital Europe Programme, which supports projects in the fields of supercomputing, artificial intelligence (AI), digital skills, and innovation hubs, as well as the use of opportunities provided by the Connecting Europe Facility (CEF) as an instrument for investment in transport, energy, and digital networks (EC, 2026b).

Accordingly, one of the primary objectives of this study is to analytically document progress along these tracks and to identify the causal relationships between digital implementations and the effectiveness of public policy, focusing on governability, transparency, reduced interaction costs, and procedural efficiency. The study also aims to outline barriers such as interoperability, data quality, regulatory alignment, and cyber resilience that are critical for Ukraine’s continued advancement toward full EU membership.

**Transformation of Ukrainian customs space.** Ukraine’s accession to the Convention on a Common Transit Procedure constitutes a systemic element of aligning customs administration with EU practices and a prerequisite for integration into the common transit area. The Convention entered into force for Ukraine on 1 October 2022. This enabled the introduction of uniform transit rules among participating countries and ensured the mutual recognition of control formalities in transit operations. Within the framework of the Convention, the common transit procedure is applied among 37 countries, including EU Member States and other European countries, which determines the scale of the effects resulting from the unification of transit rules for Ukrainian exports and imports. The technological core of the Convention is the New Computerised Transit System (NCTS), an IT system that enables the exchange of transit information between customs administrations and supports the standardized life cycle of a transit operation. In procedural terms, NCTS codifies the principle of “one means of transport – one declaration – one guarantee”, whereby transit is carried out from the customs office of departure to the customs office of destination under a single transit declaration and a single guarantee valid throughout all countries along the route (DMSU, 2026b).

This approach serves as an instrument for the standardization of customs control through several mechanisms:

- a) the harmonization of data structures and status categories of transit messages;
- b) the mandatory provision of guarantees for transit movements;
- c) the application of sealing procedures recognized by participating countries;
- d) the possibility of transit simplifications, including a comprehensive guarantee with the possibility of reduction up to a guarantee waiver, as well as the status of authorized consignor/consignee.

In the development of NCTS, the key elements are the versioned “phases”, which modify data structures and the set of messages used within the system. Ukraine fulfilled its obligation to transition to NCTS Phase 5 on 22 April 2024, thereby ensuring compatibility with the overall evolution of the system in the countries participating in the Convention. Further synchronization of the operational environment was strengthened by the pan-European transition to new NCTS releases, including the completion of the rollout of NCTS-P5 in countries that use NCTS (EC, 2025a).

The empirical dynamics of the use of the common transit procedure indicate a transition of NCTS from a “point-based” instrument to a mass operational standard for a significant share of transit flows. By the end of 2025, almost 96.5 thousand movements initiated by the customs authorities of Ukraine and completed in other countries participating in the Convention on a Common Transit Procedure had been recorded. In Ukraine, more than 45.5 thousand movements initiated by other participating countries were completed. In total, nearly 142 thousand transit declarations were processed, representing an unprecedented result for Ukraine in the international application of NCTS. A structural shift toward the domestic use of NCTS was also recorded. The number of movements under internal transit increased by almost 2.5 times, from 10 thousand in 2024 to 24.5 thousand in 2025 (MFU, 2026). This trend may be interpreted as an indicator of growing business confidence in digital transit procedures and the diffusion of European procedural logic into domestic supply chains (see Table 1).

Table 1

**Key indicators of NCTS application in Ukraine in 2025**

Indicator name	Metric	Characteristic
Total number of transit declarations	Almost 142 thousand	Scaling NCTS as the «default» transit channel
Transfers initiated by Ukrainian customs authorities and completed in other countries	Almost 96.5 thousand	Intensity of cross-border transit originating in Ukraine
Transfers initiated in other countries and completed in Ukraine	Over 45.5 thousand	Growth in «inbound» transit and integration of import flows
Internal transit in NCTS	Over 24.5 thousand	Institutionalisation of the digital transit standard in domestic transport
General guarantees	87 (almost EUR 300 million)	Consolidation of the guarantee market and growth in guarantee capacity. Despite a decrease in the number of entities (from 109 in 2024), the total volume of guarantees increased by 51%, indicating a consolidation of the financial capacity of large operators.
Individual guarantees	22,701 (over EUR 1 billion)	Extension of guarantees coverage for transit operations
Exemption from guarantee	11 entities (over EUR 57 million)	Development of a partnership model and trust-based simplifications. In 2025, three new companies were added. This is the highest level of trust in business, allowing companies to free up working capital.

Source: (MFU, 2026)

The transition to NCTS-P6 in the EU is associated not only with the technical modernization of messages and data structures but also with addressing the task of integrating transit procedures with entry security and safety requirements through ICS2 (Import Control System 2).

The European Commission identifies two implementation options for NCTS-P6.

1. Opt-out option: Entry Summary Declaration (ENS) data are submitted directly to ICS2 separately from the transit declaration.

2. Opt-in option: the ENS message is incorporated into the transit declaration, while NCTS-P6 provides an interface with ICS2 to support the execution of business processes such as risk analysis, control recommendations, and decision-making (EC, n.d.-a).

Within the framework of preparations for NCTS-P6, Ukraine is inclined toward the implementation of the opt-in model, which is more complex from a technical perspective but procedurally more efficient

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for businesses because it avoids the duplication of ENS submissions and transit data. This approach is reflected in the official communications of the State Customs Service of Ukraine (DMSU, 2026c). Even in the presence of pan-European implementation schedules, practical risks arise due to the asynchronous transition of individual states to NCTS Phase 6 (NCTS-P6) and ICS2. A demonstrative example is the case of Hungary, which, starting from 18 February 2026, introduced the application of NCTS-P6 and ICS2. This resulted in the mandatory submission of ENS through ICS2 in addition to the T1 declaration for entry into the EU via Hungary. A transitional period has been established until 15 March 2026, after which ENS submissions are accepted exclusively through ICS2 (DMSU, 2026d).

For Ukraine, this means that the standardization of customs control procedures must take into account not only “national readiness” but also the cross-national compatibility of implementation timelines, since local “advances” or “delays” in individual transit corridors can quickly translate into transaction costs and risks of operational disruptions.

The NCTS case demonstrates that the standardization of customs control procedures in a digital environment constitutes a threefold task:

1. Procedural standardization – establishing uniform rules, simplifications, and the formalization of stages and statuses within NCTS.

2. Data and interoperability – harmonizing data sets and message flows between NCTS and ICS2 through opt-in or opt-out architectures.

3. Institutional trust and compliance ecosystem – implementing guarantee instruments, developing simplifications, and transitioning toward a partnership model between customs authorities and business.

**Technological modernisation of the national customs service.** In the current context, the digital transformation of customs should be understood not merely as the digitization of individual procedures, but as a shift toward a data-driven control model, where the key management resources are data quality, standardized procedures, and IT interoperability. Within this paradigm, customs control moves from a predominance of manual operations to automated decision-making workflows, while risk management becomes the central mechanism for balancing the facilitation of legitimate trade with the prevention of violations. Accordingly, the technological modernization of customs should be assessed based on the system’s ability to ensure:

- a) automated data validation;
- b) algorithmic selection of control objects;
- c) transparent logging of officials’ actions;
- d) electronic interaction with participants in the supply chain.

A notable development is the integration of artificial intelligence elements into automated risk analysis tools. In particular, the State Customs Service of Ukraine has reported the implementation of a new version of its automated risk analysis system that employs generative large language models (LLMs) to automate the verification of names and surnames in customs declarations. According to the stated logic, the AI identifies incorrect entries and focuses manual checks on the most questionable cases, thereby simultaneously increasing the throughput of control procedures and reducing the influence of human factors (DMSU, 2026e). In practical terms, this signifies a shift toward preventive data quality control. Reducing errors in primary data sets improves the accuracy of risk profiling and decreases the proportion of unjustified interventions in legitimate trade.

A parallel track of modernization involves the upgrading of technical means for customs control at the border. The State Customs Service publicly links the deployment of modern scanners and weighing systems at checkpoints to the need for faster vehicle inspections, more effective detection of potential violations, and, consequently, an enhanced fiscal impact through reduced opportunities for evasion. In a scientific and practical interpretation, this approach establishes a model of “hybrid control”, combining physical inspection tools with analytical risk management instruments, where technical means serve as tools for implementing selective decisions rather than as a universal practice of blanket inspections.

Particular attention is required for the digital modernization of seaport checkpoints, which are characterized by high process complexity and a substantial volume of documentation. Currently, a pilot operation is underway for the functionality of the Electronic Log of the Seaport Checkpoint as part of the updated Automated Customs Clearance System. The expected impact is defined through the automation of customs clearance at seaport checkpoints and the simplification and acceleration of customs control for foreign-going vessels.

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It is further specified that the implementation of the electronic log is intended to ensure: electronic receipt, processing, and storage of documents; electronic transmission of decisions to members of the port community; logging of inspectors' actions; and the automation of risk assessment during control procedures for vessels. In the context of standardization, this signifies the institutionalization of a “process benchmark”, where procedures are embedded in IT workflow logic, and deviations become manageable and auditable, thereby enhancing integrity and reproducibility of practices.

**Authorised Economic Operator (AEO).** The institution of the AEO emerged as the core of the “Customs – Business” partnership model within the SAFE Framework of Standards of the World Customs Organization, which was adopted in 2005. The AEO programme was subsequently introduced in 2007 as the flagship mechanism of the “Customs–Business” partnership [WCO, n.d.]. In the SAFE Framework of Standards 2025 edition (SAFE FoS 2025), the emphasis shifts from “formal compliance” toward the management of internal risks, ethical standards, and the prevention of insider threats. This strengthens the understanding of the AEO as an institution of trust rather than merely a “set of benefits” (WCO, 2025).

In the national legal framework, the AEO is institutionalized through the provisions of the Customs Code of Ukraine, which establish a logic of prior trust and selective control based on reliability and compliance criteria. A critically important prerequisite for scaling the AEO institution has been process-oriented digitalization. In this regard, the State Customs Service has initiated the phased implementation of the updated Customs Decisions System CDS.UA, which operationalizes electronic workflows for the submission of applications and the adoption of administrative decisions in the field of authorizations and simplifications (DMSU, 2026f). Empirically, the AEO programme demonstrates steady growth. According to the progress report on the National Revenue Strategy for 2024, the number of enterprises holding AEO status reached 77, reflecting increased interest from the business community. At the same time, an expansion of the system of simplifications and regular communication between the customs authorities and business associations has been recorded (MFU, 2025). In 2025, the number of enterprises holding AEO status reached 110, and the evaluation of new applicants was completed during the year. This indicates a transition from isolated authorizations to a programmatic model of trust (DMSU, 2026g). The granting of the 110th AEO status to a large trading operator demonstrates that the AEO regime is becoming relevant not only for traditional exporters and manufacturers but also for sectors characterized by a high frequency of import shipments and a significant volume of documentation.

Despite quantitative growth, the key issue remains the structure of AEO authorizations by type. According to the official report of the Ministry of Finance, prepared in the context of the work of the EU–Ukraine Sub-Committee on Customs Cooperation, the European Union specifically emphasized the need to increase the number of AEO authorizations of the “security and safety” type (AEO-S). A benchmark of 10 such operators has been confirmed, whereas as of 1 January 2025 their number stood at only three (MFU, 2025, p. 41).

This means that, in order to achieve practical readiness for negotiations on the mutual recognition of AEO, Ukraine should move from merely expanding the AEO perimeter toward the targeted stimulation of the security dimension. This includes standardized requirements for internal supply chain security covering personnel, access control, and counterparties; the integration of ethical and anti-corruption policies into the compliance package; and the development of bundled digital services for AEO-S within CDS.UA, including policy templates and typical risk profiles for accelerated targeting. Such measures can serve as an element of the standardization of customs control procedures.

**Cross-border data exchange and multimodal logistics.** The transition to paperless procedures in trade and at the border should be understood as a sequence of interrelated institutional and technological steps rather than as a one-time IT modernization. In practical terms, the concept of “going paperless” encompasses the following elements:

- 1) digitization of trade documents;
- 2) the digitalization of procedures;
- 3) the application of digital technologies to connect processes and manage risks;
- 4) the standardization of data elements;
- 5) the establishment of legal and organizational frameworks that legitimize electronic operations.

Empirical assessments by the OECD further emphasize that data availability and regulatory compatibility are becoming key constraints for the automation of border control. Improvements in the automation and coordination of border procedures, reflected in a 10% increase in Trade Facilitation

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Indicators (TFIs), are associated with an increase in global merchandise exports of up to 18%. At the same time, improvements in the regulatory environment governing digital transactions are associated with an increase in global exports of up to 37% (OECD, 2025). Within this logic, cross-border data exchange and the digitalization of transport documents function not as a supplementary layer but as structural elements underpinning the standardization of customs control procedures. They reduce information gaps between jurisdictions by shifting control toward a regime of advance analytics and risk-based targeting. The SEED (Systematic Electronic Exchange of Data) system has evolved as an instrument for the systematic electronic exchange of customs data between neighboring administrations and has been operating for more than a decade in the regional CEFTA framework. Its core value lies in providing customs authorities of the destination country with pre-arrival access to relevant cargo and transport attributes, thereby reducing the need for duplicate data entry and improving the quality of risk analysis (Razumei et al., 2025). The updated SEED+ version conceptually expands SEED from a message exchange mechanism into an application software solution for managing the flow of vehicles at the border and for scaling the scope of shared data sets (CEFTA, n.d.). The key procedural effect of SEED+ lies in the transition from retrospective verification at the border crossing point to preventive coordination. Customs authorities in the country of entry receive relevant data before the arrival of the vehicle, which allows them to cross-check this information with declarative and reference data and to apply risk profiles prior to the actual border crossing. This approach reduces the time required for coordination and limits opportunities for data manipulation.

In this context, the practical use of this mechanism is particularly important for Ukraine, especially the application of SEED+ as an instrument of the “Solidarity Lanes. In 2023, with the support of EU4Digital, an eCustoms pilot project was launched on the Ukraine – Romania section (Porubne – Siret), focusing on the electronic exchange of data on the cross-border movement of freight vehicles and the reduction of duplicated procedures (EU Neighbours East, 2025a). In 2024, a trilateral eCustoms/SEED pilot project (Ukraine–Moldova–Romania) was implemented, covering several border crossing points. According to project reports, it was tested on a dataset exceeding 125 thousand movements of freight road transport, including both empty and loaded vehicles (EU Neighbours East, 2025b). From the perspective of the standardization of customs control, this case is particularly important because it demonstrates that the scalability of data exchange directly depends on the alignment of data attributes and procedures for accessing them. Special attention should also be given to the pilot project between Ukraine and Lithuania, which is positioned as a precedent for applying the SEED logic to big data-based analytics, particularly to strengthen the monitoring of sanctions compliance and post-clearance control (EU Neighbours East, 2025c). In the scientific and practical dimension, this format highlights that the contemporary standardization of customs control extends beyond the physical border crossing point and encompasses cross-border analytical frameworks such as post-clearance analytics and risk management. Within this context, the quality of data, their semantic consistency, and the legal basis for their processing become critical factors.

In parallel with customs data exchange frameworks, the digitalization of transport documentation is also taking place. The normative core for road transport is the Additional Protocol to the CMR Convention concerning the Electronic Consignment Note (e-CMR). It establishes the legal foundations for the use of an electronic document in place of a paper one and, when properly implemented, reduces transaction costs and enhances the traceability of logistical events (Additional Protocol, 2008).

In the EU, the legal basis for electronic freight data is provided by Regulation (EU) 2020/1056 (eFTI) and its accompanying implementation framework. Competent EU authorities are required to accept regulatory information in electronic form through certified platforms. The expected impact includes a reduction in administrative burden and annual savings of up to EUR 1 billion for the transport and logistics sector, assuming full implementation of the framework according to the established timeline (EC, n.d.-b).

From the perspective of border and customs control, it is important that e-CMR/eFTI convert transport data into a machine-readable and verifiable format, creating conditions for:

- 1) automatic reconciliation of transport and customs events;
- 2) elimination of duplicate information exchanges between the carrier, freight forwarder, customs authorities, and other regulatory bodies;
- 3) transition to risk-based “data-driven control” rather than control based on paper documents.

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The global trend also extends to transit instruments. eTIR is evolving as a paperless operational framework within the TIR ecosystem and is positioned as a solution for the secure real-time exchange of data and the enhancement of risk management capabilities (eTIR, n.d.). At the level of international road transport administration, a transition to a fully digital licensing system is planned for 2026, aimed at increasing transparency, preventing fraud, and accelerating inspections.

**Legal and technological synergy with the DSM.** The integration of Ukraine into the DSM is increasingly defined not by declarative digitalization, but by the state's ability to replicate in national regulation the key elements of the EU digital acquis:

- 1) trust services and electronic identification (eIDAS/eIDAS 2.0);
- 2) personal data protection (GDPR);
- 3) cybersecurity of critical and essential entities (NIS2);
- 4) rules governing electronic communications markets and infrastructure (planning of 5G/gigabit networks, access to infrastructure, etc.).

In Ukraine, these elements are being detailed, in particular, through the adoption of strategic sectoral documents and action plans for 2025–2027.

A key step toward alignment with eIDAS has been the implementation in Ukraine of EU legislative approaches in the field of electronic identification and trust services. In particular, this has been achieved through the updating of the relevant national law, which establishes the legal foundations for interaction with the European model of trust services (VRU, 2022). In practical terms, this has created a foundation for the mutual legal recognition of qualified electronic signatures and seals in cross-border transactions, including banking services, contracts, invoices, and interactions with public registries. Special attention should be given to the “trust list regime”: Ukraine's inclusion in mechanisms related to third countries in the field of trust services is interpreted as a step toward establishing a supranational verification framework, where the technical validation of signature certificates becomes a standard procedure for European information systems (EU4Digital, 2025). This is important not only for citizen-facing services but also for customs, logistics, and financial processes, where a recognized electronic signature effectively reduces compliance-related transaction costs. Latvia has already legislatively established the legal recognition of Ukrainian qualified electronic signatures, equating their legal effect to that of a handwritten signature within its territory (VARAM, n.d.). For Ukrainian citizens and businesses, this means the ability to sign documents with partners and access certain public services within the jurisdiction of an EU Member State without physical presence. It demonstrates the practical functionality of the digital trust model at the level of law enforcement and regulatory application.

In parallel with alignment to the current eIDAS, Ukraine is participating in the testing of the new eIDAS 2.0 framework, which focuses on the European Digital Identity Wallet (EUDI Wallet). Participation in large-scale pilot consortia, notably POTENTIAL and APTITUDE, has practical significance, as it allows national solutions to be synchronized with the requirements of the future European trust architecture and minimizes the risk of costly redevelopment once the EUDI Wallet is fully deployed across the EU (EU4Ukraine, 2024). An additional technological bridge for interoperability remains the development of secure registry interaction platforms. The update of the inter-agency data exchange ecosystem (Trembita 2.0) is, in project terms, linked to strengthening cybersecurity and ensuring compatibility with European approaches to data exchange.

The most visible outcome of Ukraine's integration into the DSM for citizens has been the decision to include Ukraine in the Roam Like at Home zone starting 1 January 2026. This extends the EU internal market principle to roaming services for Ukrainian numbers in EU countries and vice versa (EC, 2025b). From a political-economic perspective, this serves as a marker of the regulatory environment's readiness for alignment in the electronic communications sector and demonstrates Ukraine's ability to fulfill internal market obligations in specific segments even before formal EU membership. In practical terms, it reduces mobility costs for the workforce, supports business communications, and encourages further harmonization of regulatory procedures in the sector.

An important mechanism of convergence is Ukraine's participation in the Digital Europe Programme (DEP), the EU instrument for scaling digital capabilities in areas such as AI, cybersecurity, digital skills, and technology deployment. In practice, the integrative effect of DEP is manifested not only through grants but also through the creation of networked structures for technology transfer. In Ukraine, this has resulted in the establishment of a network of eight European Digital Innovation Hubs, as well as

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measurable outcomes from Ukrainian organizations: 19 grant agreements, 75 participating organizations, and €14.4 million in mobilized funding (Office for Entrepreneurship, 2025). This means that alignment with the DSM occurs not only through legislation but also through joint projects, implementation standards, grant audits, and requirements for cybersecurity and data management.

Digital services such as registries, trust services, customs databases, and cloud solutions depend on reliable backbone infrastructure. In this context, the CEF Digital projects provide a notable example of cross-border connectivity. For instance, the East West Gate project, co-financed under CEF Digital, involved the deployment of a DWDM backbone between Ukraine and EU nodes, notably via Poland to Germany and the Czech Republic, with a focus on bandwidth capacity and resilience (Netia, n.d.). Such investments have a multiplier effect because they increase the resilience of digital services, reduce latency in access to European cloud platforms, and facilitate the redundancy of critical systems.

Thus, synergy with the DSM emerges as a combination of legal alignment (eIDAS/eIDAS 2.0, GDPR, NIS2, electronic communications rules), trust-based institutions (trust lists, mutual recognition of signatures), joint development programs (DEP/EDIH), and infrastructure connectivity (CEF Digital). In this perspective, digital integration ceases to be merely an IT project and becomes an instrument of competitiveness and institutional resilience, critically important for Ukraine's economic integration into the EU.

**Conclusions.** The article substantiates that the digitalization of customs administration serves as a key instrument for forming a “trust infrastructure” in the process of Ukraine's integration into the EU customs and digital space. It is demonstrated that the standardization of procedures and data within systems such as NCTS, ICS2, and SEED+ facilitates the transition to a risk-oriented model of customs control in which customs risk management is based on data analytics and preventive information exchange between customs administrations. The implementation of pre-arrival data exchange and automated risk analysis tools shifts the focus of control from physical inspections to analytical risk profiling, thereby improving the accuracy of targeting and reducing unnecessary interference with legitimate trade. An important element of this system is the institutional mechanisms of trust, in particular the AEO programme, which establishes a partnership model between customs and business and supports the selectivity of control. It is also shown that the integration of digital trust services and paperless transport documents creates preconditions for improving data quality, which is a critical factor for effective risk profiling. Overall, the digital rethinking of customs administration ensures a balance between trade facilitation and effective customs control through the development of intelligent systems for customs risk management.

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## ЦИФРОВІЗАЦІЯ МИТНОЇ СПРАВИ ЯК УМОВА ІНТЕГРАЦІЇ В ЄВРОПЕЙСЬКИЙ ПРОСТІР

**Максим РАЗУМЕЙ,**

доцент кафедри публічного управління та митного адміністрування  
Університету митної справи та фінансів  
кандидат наук з державного управління, доцент  
m.razumey@gmail.com  
orcid.org/0000-0003-3881-7879

**Віктор КОВАЛЬОВ,**

доцент кафедри публічного управління та митного адміністрування  
Університету митної справи та фінансів  
кандидат наук з державного управління, доцент  
vkovalov0@gmail.com  
orcid.org/0000-0001-7249-0959

**Мета статті.** Мета полягає у теоретичному та практичному обґрунтуванні цифрової трансформації митного адміністрування як «інфраструктури довіри» у процесі секторальної конвергенції України з ЄС, а також у демонстрації того, яким чином стандартизація даних і процедур сприяє забезпеченню балансу між сприянням законній міжнародній торгівлі та здійсненням митного контролю.

**Методи дослідження.** У дослідженні використано інституційно-правовий аналіз нормативних актів ЄС та міжнародних стандартів у сфері цифровізації митних процедур в митних органах України. Застосовано метод порівняльного аналізу практик функціонування цифрових митних систем і механізмів управління митними ризиками в ЄС, контент-аналіз офіційних стратегічних і програмних документів, а також системний підхід для узагальнення ролі цифрових технологій, електронного обміну даними та програми АЕО у трансформації митного адміністрування в Україні.

**Результати.** Обґрунтовано, що цифрове переосмислення митного адміністрування формує «інфраструктуру довіри», яка забезпечує ефективну взаємодію держави та бізнесу в міжнародній торгівлі. Встановлено, що стандартизація даних, впровадження електронного обміну інформацією та використання інтегрованих митних ІТ-систем сприяють переходу до ризик-орієнтованої моделі митного контролю. Показано, що інструменти цифрового митного адміністрування, зокрема системи попереднього обміну даними та програма АЕО, підвищують точність профілювання ризиків і дозволяють зосередити контроль на операціях із підвищеним ступенем ризику. Доведено, що узгодження цифрових митних стандартів України з практиками ЄС сприяє підвищенню ефективності управління митними ризиками, зменшенню адміністративних бар'єрів і водночас забезпечує баланс між сприянням законній торгівлі та результативним митним контролем.

**Висновки.** У статті обґрунтовано, що цифровізація митного адміністрування відіграє ключову роль у формуванні «інфраструктури довіри», яка сприяє інтеграції України у митний та цифровий простір ЄС. Стандартизовані дані та процедури у таких системах, як NCTS, ICS2 та SEED+, дають змогу перейти до ризик-орієнтованої моделі митного контролю, що базується на аналізі даних та попередньому обміні інформацією. Використання інформації, отриманої до прибуття вантажу, та автоматизованого аналізу ризиків зміщує акцент з фізичних перевірок на аналітичне профілювання ризиків, підвищуючи точність цільового відбору та зменшуючи непотрібне втручання у законну торгівлю. Інституційні механізми довіри, зокрема програма АЕО, зміцнюють співпрацю між митницею та бізнесом. Загалом, цифрова трансформація покращує якість даних і дозволяє досягти потрібного балансу між спрощенням торгівлі та митним контролем завдяки ефективному управлінню митними ризиками.

**Ключові слова:** електронний обмін даними, митний контроль, управління ризиками, авторизований економічний оператор, зовнішня торгівля, митна логістика, спрощення митних процедур, європейська інтеграція.



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## CUSTOMS VALUATION AND IFRS 9 HEDGE ACCOUNTING: DIVERGENCE, IMPLICATIONS AND RECONCILIATION

**Purpose.** When an import transaction is hedged using a currency forward contract, it becomes subject to two non-integrated measurement frameworks: the WTO Agreement on Customs Valuation (CVA), which bases customs duty on the transaction value – the price actually paid or payable at export – and IFRS 9 Financial Instruments, which permits hedge accounting aligning gains and losses on hedging instruments with the hedged risk. The purpose is to identify and systematise the divergence between these frameworks, assess its financial implications for importers, and propose a reconciliation framework.

**Methods.** The study employs comparative legal and institutional analysis to contrast the normative bases of WTO customs valuation and IFRS 9 hedge accounting; conceptual modelling to construct divergence scenarios; and case-based reasoning drawing on the regulatory practice of Ukraine and the European Union.

**Results.** The transaction value under WTO CVA Article 1 is anchored to the invoice price converted at the official spot rate on the customs declaration date. IFRS 9 cash flow hedge accounting, by contrast, defers gains or losses on the hedging instrument into the cash flow hedge reserve within OCI until the hedged transaction affects profit or loss, resulting in asset recognition at the forward rate. Three principal zones of divergence are identified: the exchange rate for customs conversion versus the hedged forward rate under IFRS 9; the treatment of forward points, recognised under IFRS 9 but excluded from the customs value base; the timing mismatch between customs clearance and accounting recognition of the hedged item.

**Conclusions.** The co-existence of two non-integrated measurement frameworks creates an increased compliance burden for importers and systemic inconsistency in corporate financial data. Neither framework should be subordinated to the other. Three reconciliation principles are proposed: enhanced IFRS 7 disclosure, optional advance customs rulings for entities applying IFRS 9 hedge accounting, and corroborative use of hedge accounting data in related-party valuation reviews. These measures would reduce compliance costs without compromising fiscal integrity.

**Key words:** customs valuation, transaction value, hedge accounting, foreign currency risk, import contracts, derivative financial instruments, cash flow hedge reserve, financial reporting

**JEL Classification:** F13, M41, G32, K34

### Mykola SKRYPNYK,

Associate Professor at the Department  
of Finance, Accounting and Taxation  
Chernivtsi Institute of Trade and  
Economics of State University of  
Trade and Economics  
Candidate of Economic Sciences  
[skripnik76@ukr.net](mailto:skripnik76@ukr.net)  
[orcid.org/0000-0003-3597-6188](https://orcid.org/0000-0003-3597-6188)

### Nataliia SKRYPNYK,

Associate Professor at the Department  
of Finance, Accounting and Taxation  
Chernivtsi Institute of Trade and  
Economics of State University of  
Trade and Economics,  
Candidate of Economic Sciences,  
Associate Professor  
[nvs20@meta.ua](mailto:nvs20@meta.ua)  
[orcid.org/0000-0003-2180-5863](https://orcid.org/0000-0003-2180-5863)

**Introduction.** The internationalisation of procurement chains has made currency risk management an operational necessity for manufacturers, retailers, and distributors that source goods abroad. According to data from the Bank for International Settlements, the daily average turnover in OTC foreign exchange derivatives reached approximately USD 3.8 trillion in 2022 (BIS, 2022), a considerable share of which reflects trade-related currency hedging by non-financial corporations. When an entity designates a currency forward contract as a cash flow hedge of a forecast import purchase under IFRS 9, the accounting treatment of the resulting gain or loss departs from the spot rate logic that governs the determination of customs value under the WTO Agreement on Implementation of Article VII of GATT 1994.

This divergence is not merely a technical accounting curiosity. For economies with significant import volumes and elevated currency volatility – such as Ukraine, Turkey, Egypt, or Nigeria – the difference between the hedged rate used in financial accounting and the spot rate applied at customs clearance can reach several percentage points, translating into hundreds of millions of dollars in measurement discrepancy at the macroeconomic level. At the firm level, this creates a situation where the cost of imported inventory

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as reported under IFRS may differ materially from the customs value base, complicating cost accounting, transfer pricing documentation, and tax reconciliation simultaneously.

Despite its practical importance, the academic literature has devoted limited attention to this intersection. Studies on WTO customs valuation predominantly examine related-party transactions, royalties, and software licensing (Alagic, 2016; Pitschas & Schloemann, 2013), while IFRS 9 hedge accounting research focuses on effectiveness testing, hedge ratio rebalancing, and earnings volatility reduction (Bernhardt, Erlinger & Unterrainer, 2014; Awuye & Taylor, 2024). The specific interaction between hedging instruments and customs valuation remains an underexplored frontier in both literatures.

This paper aims to fill that gap by: (i) systematising the normative foundations of each framework; (ii) identifying the specific points at which they diverge when applied to the same hedged import contract; (iii) modelling the financial implications of the divergence; and (iv) discussing potential reconciliation mechanisms at both the firm and regulatory level.

**Literature Review.** The normative architecture of WTO customs valuation is grounded in the Agreement on Implementation of Article VII of the GATT 1994, commonly referred to as the Customs Valuation Agreement (CVA). The primary valuation method under Article 1 of the CVA establishes that customs value is the transaction value – defined as “the price actually paid or payable for the goods when sold for export to the country of importation” – adjusted for specific additions enumerated in Article 8 (WCO, 2009). The World Customs Organization estimates that the transaction value method underlies approximately 90–95% of all customs valuations globally (WCO, 2009; Walsh, 2003). Alagic (2016), in an article published in this journal, emphasises that the WTO system consciously moves away from notional or constructed values toward actual commercial prices, thereby grounding customs duty in demonstrated economic reality.

The treatment of currency conversion in customs valuation has received attention from scholars examining the interaction between exchange rate policy and import costs. Pitschas and Schloemann (2013) analyse how EU customs regulations translate the transaction value into the national tariff currency, with the applicable exchange rate determined by reference to the rate of the penultimate week as published by the European Central Bank, irrespective of any forward contract concluded by the importer. This administrative anchoring of the exchange rate to a published official rate has a direct parallel in Ukrainian customs legislation, where Article 51 of the Customs Code of Ukraine requires the conversion of the invoice value using the official NBU exchange rate on the date of customs declaration submission.

The IFRS 9 hedge accounting model introduced with the full standard in 2014 and effective from 1 January 2018 represented a fundamental shift from the rules-based approach of IAS 39 toward a principles-based framework (Bernhardt, Erlinger & Unterrainer, 2014). Hedge effectiveness is no longer assessed against the 80–125% effectiveness threshold; instead, it requires an economic relationship between the hedging instrument and the hedged item, the absence of credit risk dominance, and a hedge ratio consistent with the entity’s actual risk management practice (IASB, 2014). For cash flow hedges of forecast foreign currency purchases, the effective portion of cumulative gains or losses on the forward contract is deferred into the cash flow hedge reserve within OCI and subsequently reclassified to the cost of the acquired asset or to profit or loss when the hedged transaction affects the financial statements (KPMG, 2013).

A systematic literature review by Awuye and Taylor (2024) covering over 120 post-implementation studies of IFRS 9 identifies earnings volatility reduction and improved alignment between risk management and financial reporting as the two most consistently documented outcomes of the standard’s hedge accounting chapter. However, the authors note that the interaction between hedge accounting and non-financial regulatory frameworks – including customs and taxation – remains “largely absent from the empirical literature.”

The closest body of work to the present study concerns the relationship between transfer pricing and customs valuation, where the tension between the arm’s length principle under OECD guidelines and the transaction value method under the CVA has been extensively documented (Neighbour, 2002). The fundamental problem, as framed by Pitschas and Schloemann (2013), is that transfer pricing seeks to allocate profit among related parties using economic benchmarks, while customs valuation seeks to protect the fiscal base using actual transaction prices. An analogous tension, this paper argues, exists between IFRS 9 hedged rates and WTO transaction values – two legitimate but non-integrated measurement outcomes simultaneously applied to identical commercial transactions.

**Normative Frameworks: Key Differences.** The two frameworks share a common object – the import transaction – but pursue structurally different objectives through incompatible measurement methodologies. Table 1 contrasts their principal characteristics.

Table 1

**Comparative Characteristics of WTO CVA and IFRS 9 Cash Flow Hedge Accounting**

Dimension	WTO CVA (Article 1)	IFRS 9 Cash Flow Hedge
Primary objective	Fiscal: establish the dutiable value	Accounting: faithfully represent economic risk management
Applicable exchange rate	Official spot rate at date of customs declaration	Forward rate embedded in the hedging instrument
Treatment of forward points	Excluded from transaction value (not part of “price paid”)	Included in OCI as cost of hedging (IFRS 9.6.5.16)
Recognition timing	At the moment of customs clearance	When hedged item affects profit or loss (often deferred)
Permitted adjustments	Article 8 additions only (transport, insurance, etc.)	Hedge ratio rebalancing, basis adjustments
Legal basis	WTO Agreement, Article VII GATT 1994	IASB IFRS 9 (2014), effective 01.01.2018
Jurisdiction	All WTO member states (164 members)	All IFRS-adopting jurisdictions (~140 countries)

Source: compiled by the author based on WCO (2009); IASB (2014); EU Customs Valuation Quick Info (2019)

The divergence is most acute along two dimensions: the exchange rate and the inclusion of hedging costs. Under the WTO framework, the customs authority converts the invoice price using a published official rate – in Ukraine, the NBU rate on the date of the customs declaration. Under IFRS 9, the entity records the imported asset at the hedged forward rate adjusted for any elected treatment of forward points, which typically differs from the official spot rate. Neither framework contains provisions acknowledging the other’s measurement outcome, and no international guidance has been issued to bridge the gap.

**Exchange Rate Timeline and Measurement Anchors.** To clarify at which precise moment each framework captures the exchange rate, Table 2 maps the key events of a hedged import transaction against the applicable rates and regulatory bases.

Table 2

**Exchange Rate Timeline and Measurement Anchors for a Hedged Import Contract**

Event	Date	Exchange Rate Applied	Framework	Regulatory Basis
Forward contract concluded	T <sub>0</sub> (contract date)	Spot rate: 43.00 UAH/EUR	Risk management reference	Internal hedging policy
Hedge designation documented	T <sub>0</sub>	Spot rate: 43.00 UAH/EUR	IFRS 9	IFRS 9.6.4.1(b)
Customs declaration submitted	T <sub>1</sub> (clearance date)	NBU official rate: 45.80 UAH/EUR	WTO CVA	Customs Code of Ukraine, Art. 51
Forward contract settled	T <sub>1</sub>	Forward rate: 44.20 UAH/EUR	IFRS 9	IFRS 9.6.5.11
Hedged item recognised in P/L	T <sub>2</sub> (sale of inventory)	Hedged rate basis adjustment	IFRS 9	IFRS 9.6.5.11(d)
Measurement divergence	T <sub>1</sub>	$\Delta = 45.80 - 44.20 = 1.60$ UAH/EUR	CVA vs. IFRS 9	-

Source: compiled by the author based on WTO CVA Article 1; IFRS 9.6.5.11; Customs Code of Ukraine, Article 51

Table 2 demonstrates that the divergence crystallises at moment T<sub>1</sub> – the date of customs clearance – when the two frameworks simultaneously capture the same transaction at different rates. The WTO-mandated NBU official rate reflects macroeconomic spot pricing, whereas the IFRS 9 forward rate reflects the

contractually locked price negotiated 90 days earlier. Neither rate is economically incorrect; they are simply anchored to different points in time and to different policy objectives.

**The Divergence Model: Three Scenarios.** To illustrate the practical financial implications of the normative divergence, this section develops a simplified model based on a representative import transaction. Consider an entity importing industrial equipment with a contract price of EUR 1,000,000, designated as a cash flow hedge using a EUR/UAH forward contract at 44.20 UAH/EUR, concluded 90 days before delivery. Table 3 presents three scenarios arising from this configuration.

Table 3

**Measurement Divergence: Customs Value vs. IFRS 9 Carrying Amount (EUR 1,000,000 contract)\***

Scenario	NBU spot on clearance date	Forward rate (hedge)	Customs value (UAH)	IFRS 9 asset cost (UAH)	Divergence (UAH)	Direction
A: UAH depreciation	45.80	44.20	45,800,000	44,200,000	-1,600,000	Customs > IFRS
B: Rates equal	44.20	44.20	44,200,000	44,200,000	0	No divergence
C: UAH appreciation	42.50	44.20	42,500,000	44,200,000	+1,700,000	IFRS > Customs

\*Note: IFRS 9 asset cost excludes forward points for simplicity; customs value uses the NBU official rate at  $T_1$ .

Source: compiled by the author based on NBU (2026)

Scenario A – the most common in economies with depreciating currencies, including Ukraine – produces a customs value *higher* than the IFRS carrying amount of the imported asset. This has two direct consequences: first, the entity pays customs duty on a base that exceeds the recognised cost of the inventory, creating a permanent accounting asymmetry; second, the customs duty itself, once capitalised into the cost of inventory under IAS 2, partially offsets but does not eliminate the divergence, since it is computed on the higher customs base.

Scenario C – currency appreciation – produces the inverse outcome: the IFRS asset cost exceeds the customs value. In this case, the financial statements report a higher inventory cost than the dutiable base, which may attract scrutiny from customs authorities conducting post-clearance audits and concerned about potential undervaluation.

Scenario B, representing rate equality, is theoretically possible but practically improbable, as it requires the forward rate negotiated at  $T_0$  to exactly coincide with the official NBU spot rate at  $T_1$  – an event that presupposes perfect exchange rate foresight over the hedging horizon.

**Implications for Ukrainian Importers.** Ukraine constitutes a particularly instructive case, given the simultaneous presence of: (i) mandatory IFRS application for large enterprises and listed companies under Ukrainian accounting legislation; (ii) significant UAH volatility, with the official NBU rate depreciating from approximately UAH 28/USD in early 2022 to UAH 42/USD by late 2024 (NBU, 2026); (iii) a customs valuation system anchored to the official NBU rate at the date of declaration; and (iv) a developing market for currency hedging instruments, primarily OTC forwards offered by major Ukrainian banks operating under NBU foreign exchange regulations.

For a mid-sized Ukrainian importer hedging EUR payables at a 90-day forward rate, a 5% depreciation of UAH during the hedging period generates a divergence of approximately 5% of the import value between the customs and accounting bases. On an annual import volume of EUR 10 million, this implies a cumulative measurement divergence exceeding UAH 20 million – sufficient to materially distort inventory values, cost of goods sold, and gross margin ratios in the financial statements.

Furthermore, the amendment to IAS 21 “Lack of Exchangeability,” effective 1 January 2025, introduces an additional layer of complexity for Ukrainian entities (IASB, 2023). The amendment requires entities to assess whether the UAH is exchangeable into foreign currencies at the official NBU rate or whether the rate represents a managed administrative quote that does not reflect an observable market transaction. To the extent that Ukrainian entities must apply an estimated exchange rate under the amended IAS 21, a three-way divergence arises: the WTO customs value (NBU official rate), the IFRS 9 hedged rate (forward

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rate), and the IAS 21 estimated market rate – three simultaneous measurements of the same foreign currency transaction applied for different regulatory purposes.

**Towards Reconciliation: A Conceptual Framework.** The divergence between WTO customs valuation and IFRS 9 hedge accounting does not represent a regulatory failure of either framework; it reflects the fact that each was designed to serve distinct policy objectives within separate international governance structures. However, the absence of any coordination mechanism imposes unnecessary compliance costs on importers and creates systematic inconsistencies in corporate data used simultaneously by investors, tax authorities, and customs officials. The following three reconciliation principles are proposed.

*Principle 1 – Disclosure-based approach.* IFRS financial statements should include a dedicated note disclosing the aggregate difference between the customs value of imported goods and their IFRS carrying amount where the difference is material and attributable to hedge accounting. This approach requires no amendment to either framework and could be incorporated into existing IFRS 7 disclosures on the nature and extent of hedging instruments.

*Principle 2 – Optional customs advance ruling mechanism.* Customs administrations – including Ukraine’s State Customs Service – could establish a voluntary administrative procedure whereby importers with qualifying IFRS 9 hedge accounting programmes apply for advance rulings confirming the acceptability of the hedged forward rate as the “price actually paid or payable” under CVA Article 1. Implementation of this principle would require a formal opinion from the WCO Technical Committee on Customs Valuation regarding the compatibility of forward-hedged contract prices with the transaction value definition.

*Principle 3 – Corroborative alignment for related-party transactions.* In transactions between related parties – where both customs valuation scrutiny and transfer pricing obligations apply concurrently – IFRS 9 hedge accounting data could serve as corroborating documentary evidence that the contracted price reflects genuine economic substance rather than profit shifting. This would reduce the risk of customs value adjustment under CVA Article 1.3 without creating any new regulatory burden.

**Conclusions.** This study establishes that the co-existence of WTO customs valuation rules and IFRS 9 hedge accounting generates a systematic and structurally irreducible measurement divergence when applied to the same hedged import transaction. The divergence arises from three sources: the exchange rate used for currency conversion at the moment of customs clearance, the treatment of forward points, and the timing mismatch between customs recognition and accounting recognition of the hedged item. In economies with volatile exchange rates, including Ukraine, the financial magnitude of this divergence can be material at both the firm and macroeconomic level.

The scientific novelty of this paper lies in the first systematic comparative analysis of these two frameworks from the perspective of their simultaneous application to hedged import contracts – a topic that remains absent from both the customs valuation and the IFRS 9 academic literatures. The proposed conceptual reconciliation framework – based on enhanced IFRS 7 disclosure, optional customs advance rulings, and corroborative use of hedge accounting data in related-party valuation – provides a practical starting point for regulatory dialogue between accounting standard-setters, the WCO, and national customs administrations.

Future research should extend this analysis to fair value hedges of existing import payables and to the treatment of commodity price components in import contracts hedged using cross-currency basis swaps, where the divergence from the WTO transaction value is likely to be even more pronounced. An empirical study quantifying the aggregate measurement divergence across Ukrainian importers using IFRS would be a particularly valuable contribution to the literature.

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## МИТНА ОЦІНКА ТА ОБЛІК ХЕДЖУВАННЯ ЗА МСФЗ 9: РОЗБІЖНОСТІ, НАСЛІДКИ ТА УЗГОДЖЕННЯ

**Микола СКРИПНИК,**

доцент кафедри фінансів, обліку і оподаткування  
Чернівецького торговельно-економічного інституту  
Державного торговельно-економічного університету  
кандидат економічних наук  
[skripnik76@ukr.net](mailto:skripnik76@ukr.net)  
[orcid.org/0000-0003-3597-6188](https://orcid.org/0000-0003-3597-6188)

**Наталія СКРИПНИК,**

доцент кафедри фінансів, обліку і оподаткування  
Чернівецького торговельно-економічного інституту  
Державного торговельно-економічного університету  
кандидат економічних наук, доцент  
[nvs20@meta.ua](mailto:nvs20@meta.ua)  
[orcid.org/0000-0003-2180-5863](https://orcid.org/0000-0003-2180-5863)

**Мета.** Коли імпортна операція хеджується валютним форвардним контрактом, вона одночасно підпадає під дію двох не інтегрованих систем оцінки: Угоди СОТ про митну оцінку (CVA), яка нараховує мито на основі ціни угоди – ціни, «фактично сплаченої або такої, що підлягає сплаті» за товари на момент експорту, – та МСФЗ 9 «Фінансові інструменти», який дозволяє застосовувати облік хеджування для зіставлення прибутків і збитків за інструментом хеджування з хеджованим ризиком. Метою дослідження є виявлення та систематизація розбіжностей між цими системами, оцінка їх фінансових наслідків для імпортерів і розробка концептуальних засад узгодження.

**Методи.** У дослідженні застосовано порівняльно-правовий та інституційний аналіз для зіставлення нормативних основ митної оцінки СОТ та обліку хеджування за МСФЗ 9; метод концептуального

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моделювання для побудови сценаріїв розбіжності у вимірюванні; метод аналізу конкретних ситуацій на основі регуляторної практики України та Європейського Союзу.

**Результати.** Ціна угоди за статтею 1 CVA прив'язана до ціни рахунку-фактури, конвертованої за офіційним курсом НБУ на дату митної декларації. МСФЗ 9, натомість, відстрочує ефективну частину прибутків або збитків за інструментом хеджування до резерву хеджування грошових потоків у складі іншого сукупного прибутку до моменту, коли хеджована операція вплине на прибуток або збиток, – унаслідок чого актив визнається за форвардним курсом. Визначено три основні зони розбіжності: (1) обмінний курс для митної конвертації порівняно з хеджованим форвардним курсом за МСФЗ 9; (2) порядок обліку форвардних пунктів, що визнаються за МСФЗ 9, але виключаються з митної оціночної бази; (3) часова невідповідність між митним оформленням і бухгалтерським визнанням хеджованого об'єкта.

**Висновки.** Співіснування двох не інтегрованих систем вимірювання створює підвищене компласн-навантаження для імпортерів та системну суперечливість у корпоративних фінансових даних. Жодна із систем не повинна підпорядковуватися іншій. Запропоновано три принципи узгодження: розширене розкриття інформації за МСФЗ 7, необов'язкові попередні митні рішення для підприємств, що застосовують облік хеджування за МСФЗ 9, та використання даних обліку хеджування як підтверджувальних доказів при митній оцінці операцій між пов'язаними особами. Реалізація цих заходів знизить витрати на компласнс без шкоди для фіскальної цілісності.

**Ключові слова:** митна оцінка, ціна угоди, облік хеджування, валютний ризик, імпортні контракти, похідні фінансові інструменти, резерв хеджування грошових потоків, фінансова звітність.



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## THE ARCHITECTURE OF CULTURAL COMMUNICATIONS IN SOFT POWER DIPLOMACY: INSIGHTS FROM LEADING STATES

**Purpose.** This article aims to analyze the experience of leading states in structuring and institutionalizing cultural communications as an integral component of soft power diplomacy. The study seeks to identify the key structural elements of communication architecture, examine the mechanisms of their integration into foreign policy strategies, and assess their role in strengthening sustainable international positioning. Particular attention is devoted to the systemic organization of cultural instruments and their strategic coordination within contemporary international relations.

**Methods.** The research is based on an interdisciplinary methodological framework combining structural-functional, comparative, and institutional analysis. The structural-functional approach was applied to determine the core components and internal logic of cultural communication architecture. The comparative method enabled the examination of national models and the identification of common patterns and distinctive features in their implementation. Institutional analysis was used to explore governance mechanisms, coordination processes, and interaction between state and non-state actors. In addition, content analysis of strategic documents and cultural diplomacy programs was conducted to reveal dominant priorities, narratives, and operational instruments.

**Results.** The findings indicate that cultural communications function as a multi-level and systematically organized structure integrating governmental institutions, educational and research organizations, civil society actors, creative industries, and digital platforms. The study identifies strategic planning, institutional coherence, symbolic resources, international outreach mechanisms, and evaluation tools as key elements of this architecture. It is established that the effectiveness of soft power strategies depends on long-term policy consistency, institutional sustainability, and adaptability to transformations in the global information environment. The combination of traditional diplomatic practices with digital communication technologies significantly enhances international engagement and visibility.

**Conclusions.** The experience of leading states in developing the architecture of cultural communications demonstrates the effectiveness of a systemic and strategically coordinated approach to soft power implementation. The structured organization of cultural instruments contributes to strengthening international reputation, expanding global outreach, and increasing trust among international partners. The study substantiates the important role of cultural communications in ensuring sustainable international positioning and reinforcing state influence under conditions of global transformation. The obtained results confirm the relevance of further studying and adapting successful international practices to contemporary foreign policy priorities.

**Key words:** public diplomacy, international positioning, strategic communications, institutional governance, cultural engagement, symbolic capital, foreign policy instruments, global outreach mechanisms.

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### Viktoriiia YATSYNA,

Senior Lecturer at the Department of  
General Economic Theory  
National Technical University «Kharkiv  
Polytechnic Institute»  
Candidate of Economic Sciences,  
Associate Professor  
Viktoriiia.Yatsyna@khp.edu.ua  
orcid.org/0000-0002-4440-976X

### Svitlana KLYMOVA,

Senior Lecturer at the Department of  
General Economic Theory  
National Technical University «Kharkiv  
Polytechnic Institute»  
Candidate of Economic Sciences,  
Associate Professor  
Svitlana.Klymova@khp.edu.ua  
orcid.org/0000-0002-0041-6845

**Introduction.** In the context of the ongoing transformation of the global order and the intensification of geopolitical competition, cultural communications have acquired particular significance as instruments of influence in contemporary international relations. The growing role of non-military and non-coercive mechanisms of interaction has strengthened the relevance of soft power diplomacy as a strategic component of foreign policy. States increasingly rely on culture, language, education, media, and digital platforms not merely as channels of representation, but as structured mechanisms for shaping international perceptions, constructing national images, and fostering long-term trust.

In the 21st century, cultural diplomacy has evolved beyond traditional exchange programs and symbolic initiatives into a complex, multi-level system embedded in broader strategic communications. Contemporary interpretations of public diplomacy emphasize its transformation from traditional state-centered messaging to a

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multidimensional system of engagement that integrates cultural, educational, digital, and societal actors. As Nicholas J. Cull argues, modern public diplomacy functions as a long-term process of relationship-building rather than episodic communication campaigns (Cull, 2019). According to Joseph Nye, soft power is based on attraction rather than coercion (Nye, 2004). Leading global actors, particularly the United States and China, demonstrate distinct yet equally systematic approaches to the institutionalization of cultural influence. Their models reflect different political traditions, governance structures, and value orientations, while simultaneously revealing common trends in the instrumentalization of culture within global competition.

The systemic nature of cultural communications is also emphasized in European analytical practice. The British Council conceptualizes cultural relations as a long-term process of trust-building grounded in reciprocity, institutional continuity, and sustained people-to-people engagement. According to the analytical report *The Value of Cultural Relations*, durable international influence depends not only on symbolic visibility but on stable institutional frameworks capable of maintaining dialogue over time (British Council, 2019). This perspective reinforces the understanding of cultural diplomacy as an integrated and sustainable communicative architecture rather than a set of isolated initiatives.

Against this background, a comparative analysis of contemporary practices of cultural communications as tools of soft power diplomacy becomes especially relevant for understanding the dynamics of influence in modern international relations.

**The purpose** of the article is to analyze the modern practices of cultural communications as instruments of soft power diplomacy in international relations, with particular emphasis on the comparative examination of the United States and China. The research aims to identify the institutional foundations, strategic priorities, communicative mechanisms, and geopolitical orientations of their respective models, as well as to determine their role in shaping international perception and influence.

**Methods.** The study employs a combination of general scientific and specialized methods of international relations research. A comparative method is applied to identify similarities and differences between U.S. and Chinese models of cultural diplomacy. Structural-functional analysis is used to examine the institutional frameworks and mechanisms of implementation. The systemic approach allows cultural communications to be considered as an integrated multi-level architecture combining institutional, programmatic, digital, and symbolic dimensions. Elements of discourse analysis are employed to explore value narratives and image-building strategies embedded in soft power practices.

**Results.** The findings of this study demonstrate that contemporary cultural communications function as structured and strategically coordinated instruments of soft power within the foreign policy frameworks of leading global actors. The empirical analysis reveals that both institutional design and communicative narratives play a decisive role in shaping international influence. In order to identify the operational logic and distinctive features of soft power implementation, it is necessary to examine the practical mechanisms through which states translate values, cultural symbols, and educational models into instruments of geopolitical positioning.

The first case under consideration is the United States, whose approach to cultural communications is largely grounded in the universalization of normative values and the global dissemination of its socio-cultural model.

*U.S. Cultural communications: soft power through the universalism of values*

The United States has historically been one of the most influential actors in the field of soft power (Cull, 2008). Following the Second World War, the U.S. actively consolidated its global presence not only through economic and military strength but also by promoting American values such as democracy, freedom of speech, innovation, and individualism through culture, education, technology, and mass media.

During the period 2000-2025, the United States consistently employed cultural communications as a strategic instrument for shaping soft power within the global environment. This encompasses not only institutionalized cultural diplomacy, but, more importantly, a broad range of channels for transmitting cultural meanings, symbols, ideas, and values that contribute to a favorable perception of the United States worldwide. American cultural communications possess a multi-level structure that integrates governmental initiatives, educational exchange programs, digital platforms, media systems, popular culture, and informal networks of interaction.

One of the key organizations responsible for implementing U.S. cultural diplomacy is the Bureau of Educational and Cultural Affairs (ECA) of the U.S. Department of State (U.S. Department of State, n.d.).

Through this institutional framework, dozens of international programs are administered, the most well-known are presented in Table 1.

Table 1

**U.S. cultural programs (2000–2025)**

<b>Program</b>	<b>Program description</b>	<b>Communicative role</b>
Fulbright Program	Academic exchange programs for students, faculty members, and researchers from more than 160 countries. The goal is to foster mutual understanding among nations through shared education and research	Contributes to the formation of academic and cultural bridges through direct interpersonal interaction; enhances the prestige of the United States as an intellectual center
International Visitor Leadership Program (IVLP)	Invitational programs for emerging leaders and professionals to visit the United States and gain first-hand insight into the country's political, economic, and cultural systems through live communication	Establishes personal connections between future leaders and the United States, laying the groundwork for long-term engagement and loyalty
American Spaces	A network of cultural centers abroad hosting lectures, film screenings, workshops, and language clubs, serving as platforms for cultural dialogue with local communities.	Provides an accessible U.S. cultural space in foreign countries; promotes bilateral cultural interaction and dialogue.
Education USA	An information network assisting international applicants with admission to U.S. higher education institutions, thereby strengthening trust in the American educational system and its values.	Communicates the U.S. educational model as open, high-quality, and inclusive; cultivates a positive national image through education
English Access Microscholarship	A scholarship program for students aged 13-20 from developing countries, focused on English language acquisition, critical thinking, and civic values.	Engages youth with the values of openness, democracy, and self-development through linguistic and cultural interaction
MOOC-platforms (Coursera, EdX)	Free online courses offered by leading American universities and accessible globally, serving as a mechanism for disseminating academic standards and language models.	Promotes U.S. knowledge production, academic mobility, and linguistic culture within the digital environment.
Peace Corps	A volunteer program placing Americans abroad to support education, community development, intercultural interaction, and local initiatives in education and public health	Utilizes personal example and everyday communication as channels of influence within local communities.
English Language Fellow / Teacher Programs	Programs for English language instructors teaching in various countries worldwide, fostering long-term educational and cultural ties while disseminating American pedagogical approaches	Promotes U.S. linguistic and educational culture; establishes sustainable interpersonal and institutional linkages

Source: compiled by the authors on the basis of: (U.S. Department of State (n.d.), U.S. Agency for Global Media (n.d.), Institute of International Education (2024)).

A distinct role is played by the U.S. Agency for Global Media (USAGM), which coordinates U.S. international broadcasting, including Voice of America, Radio Free Europe/Radio Liberty, Alhurra, and other outlets. These media function as instruments for promoting the American worldview, democratic values, and human rights, while simultaneously serving as channels for cultural transmission (U.S. Agency for Global Media, n.d.).

Among the key instruments of U.S. cultural communication, the following may be identified.

First, mass culture as a global language. Through film, music, television, and online content, the United States communicates with the world in an informal yet systematic manner. Hollywood films, Netflix series, and the music of American artists construct images of the “American Dream,” freedom, and innovation. These narratives are perceived by millions not as political messages, but as elements of cultural reality.

Second, digital communication platforms. Since the 2010s, the United States has intensified its presence on social media as a means of engaging with youth in other countries. Government institutions,

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universities, and cultural foundations actively communicate via YouTube, Instagram, Twitter (X), and TikTok. Massive Open Online Courses (MOOCs) such as Coursera and EdX have provided access to American academic culture for millions of students in countries where the United States has no physical presence (Nazaruk, 2021).

Third, public volunteering and interpersonal interaction. The Peace Corps and similar programs are built on trust and shared experience. Volunteers learn local languages and cultures while simultaneously transmitting American norms of cooperation, civic engagement, education, and innovation. This form of cultural communication operates through everyday practice rather than formal messaging.

Fourth, the English language as a key channel of cultural interaction. Through programs such as the English Access Microscholarship Program, the Teachers of Critical Languages Program (TCLP), and the English Language Fellow Program, the United States expands communicative opportunities in the global environment. These initiatives generate millions of individual acts of communication that reinforce perceptions of the United States as an open, educated, and leadership-oriented nation.

Additional instruments of U.S. soft power include:

- Hollywood and mass culture (the film industry, music, global brands, and show business);
- MOOCs and educational platforms (Coursera, EdX);
- technological giants as cultural intermediaries (Google, Meta, Apple).

U.S. cultural diplomacy is characterized by a high degree of non-governmental partnership. For example, American universities independently implement hundreds of exchange programs with foreign partners. Initiatives such as Open Doors and Education USA support sustained interest in American education as a cultural product (Institute of International Education, 2024).

In a geostrategic context, the United States employs cultural diplomacy as part of its strategic communication, particularly in post-Soviet countries, the Middle East, Africa, and Asia. U.S. cultural programs in Eastern Europe (including Ukraine) are aimed at strengthening civil society, promoting media literacy, and supporting independent journalism – all within the framework of the democratic “export of values”.

At the same time, American cultural diplomacy is frequently criticized for its global universalism, which at times borders on cultural hegemony. The promotion of the “American way of life” is occasionally perceived as imposition rather than intercultural dialogue. For this reason, since the 2010s the United States has increasingly turned to the concept of smart power, combining soft power with elements of hard influence in more nuanced and flexible formats.

Thus, U.S. cultural diplomacy is deeply institutionalized, multi-channel, and highly technological. It is grounded in the attractiveness of values, cultural products, and educational opportunities. However, under contemporary conditions, the United States faces challenges related to cultural pluralism, information competition, and new forms of hybrid confrontation, which necessitate a more flexible and localized approach to soft power.

U.S. cultural communications cannot be reduced to official diplomacy alone; rather, they function as a multi-channel system of symbolic interaction. These communications operate simultaneously on a vertical level (through state programs) and a horizontal level (through educational exchanges, volunteering, and digital networks). It is precisely through the continuous and consistent transmission of cultural codes, identities, and value matrices that the United States establishes a profound “background presence” within the global cultural space.

#### *China's Soft Power Strategy through Cultural Communications*

Over the past two decades, the People's Republic of China (PRC) has transformed cultural communications into a strategic instrument of its foreign policy, actively employing them to shape a positive international image, expand its global influence, and promote a civilizational model positioned as an alternative to the Western paradigm (Shambaugh, 2013). Within the framework of the soft power concept proposed by Joseph Nye, China has adapted cultural diplomacy to its own political context, combining traditional elements (language, heritage, values) with contemporary tools such as digital technologies, youth exchanges, symbolic diplomacy, and infrastructure projects.

China's understanding of soft power is based not solely on the attractiveness of culture per se, but also on the demonstration of social stability, historical continuity, and global initiative. Consequently, the PRC's cultural communications possess a comprehensive character: they integrate elements of public diplomacy, cultural infrastructure development, educational export, and a strategic narrative centered on

the “peaceful rise of civilization.” A particularly significant role in this process is played by Confucius Institutes, international cultural festivals, projects implemented within the framework of the Belt and Road Initiative (BRI), as well as China’s active presence in the global media space (Callahan, 2016), (Huang, 2021).

China’s cultural presence worldwide is expanding in a systematic manner and according to clearly defined geopolitical priorities, including Africa, Southeast Asia, Latin America, and Central Europe. This indicates not only a commitment to intercultural dialogue, but also an aspiration to compete for influence with Western models of soft power.

The instruments of the PRC’s cultural communications are presented in Table 2.

Table 2

**Key instruments of China’s cultural diplomacy**

Type of Instrument	Components	Examples / Cases
Institutional	Language centers; university-based platforms	Confucius Institute
Programmatic	Scholarships; educational exchanges; grant schemes	Belt and Road Initiative (BRI) Cultural Exchange Programs; Chinese Government Scholarships
Digital	Social media platforms; influencers; online communication ecosystems	China – Global Youth Influencer Exchange Programs
Media-Based	International broadcasting; streaming platforms; film and television production	China Global Television Network (CGTN); StarTimes (Africa); Chinese television dramas
Symbolic	Diplomatic gestures; cultural gifts; traditional symbols	“Panda diplomacy”; calligraphy; tea culture
Infrastructure-Based	Cultural centers; theatres; stadiums; public venues	Stadium diplomacy in Africa; Cultural Center in Laos

*Source: compiled by the authors on the basis of: (Shambaugh (2013), Callahan (2016), Huang (2021), Fedasiuk (2020), official data of the Center for Language Education and Cooperation (n.d.).*

One of the most extensive and systematic instruments of the People’s Republic of China’s (PRC) cultural diplomacy is the global network of Confucius Institute. Since its establishment in 2004, the initiative has evolved into a central mechanism for the international promotion of Chinese language and culture. At its peak (2018–2019), more than 500 Confucius Institutes and over 1,000 Confucius Classrooms operated in more than 100 countries, ensuring a sustained presence of Chinese cultural outreach within the global educational sphere. In the early 2020s, however, the number of institutes declined, particularly in North America and Europe (Huang, 2021).

The institutes traditionally functioned through a tripartite cooperation model involving a Chinese government-affiliated body (formerly Hanban, reorganized in 2020 into the Center for Language Education and Cooperation), a partner Chinese university, and a host foreign educational institution. Their activities include language instruction, cultural programming (competitions, exhibitions, concerts), academic exchanges, and scholarships for study in China. Large-scale cultural events, such as Lunar New Year galas, have been organized simultaneously across dozens of countries, attracting broad public participation (Center for Language Education and Cooperation, n.d.). These institutions exemplify China’s model of soft power, which combines cultural appeal with narratives of social stability, historical continuity, and global engagement.

At the same time, Confucius Institutes have faced substantial criticism. In several Western countries, they have been accused of undermining academic freedom, limiting discussion of politically sensitive topics (including human rights, Taiwan, Xinjiang, and Tibet), and potentially facilitating state influence. A frequently cited case is the 2014 “Braga incident” in Portugal, where conference materials were reportedly altered to remove references to Taiwan. Between 2013 and 2021, a significant number of institutes were closed or restructured in the United States, Canada, Sweden, Australia, and other countries; for example, the University of Chicago terminated its Confucius Institute partnership in 2014, and Stockholm University closed its institute in 2015.

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Following a decline in its popularity across parts of the West, China redirected elements of its cultural outreach toward the Global South, particularly Africa, Southeast Asia, and Latin America, integrating Confucius Institute activities into the educational and people-to-people dimension of the Belt and Road Initiative (BRI). This shift has enabled Beijing to consolidate influence in strategically significant regions while compensating for institutional closures in North America and Europe (Callahan, 2016).

Confucius Institutes thus function not merely as language centers but as components of China's broader communication strategy. Their effectiveness depends on adaptation to local contexts, academic transparency, and the maintenance of host-community trust.

China also combines cultural diplomacy with infrastructure support, often described as "stadium diplomacy." In several BRI partner countries, Beijing has financed or constructed cultural centers, theatres, and sports facilities alongside transport and industrial projects. Examples include the National Cultural Centre in Uganda and the National Theatre in Laos, which operate both as venues for cultural exchange and as symbols of strategic partnership. In this sense, the BRI represents a multi-layered system of cultural communication that merges state strategy, symbolic resources, and pragmatic diplomacy. Compared to Western soft power models, China's approach emphasizes long-term infrastructural embedding of culture within partner societies, thereby generating sustained communicative leverage.

In the digital era, the People's Republic of China (PRC) has expanded cultural diplomacy through online platforms, transforming traditional outreach into a multi-level system of digital engagement. This strategy forms part of a broader public diplomacy framework aimed at shaping China's international image, influencing narratives, and projecting a distinct value model globally.

Chinese platforms such as Douyin and WeChat, alongside the international activities of China Global Television Network and other state-affiliated media, disseminate cultural content highlighting everyday life, heritage, education, and technological development. Content is frequently localized for audiences in Asia, Africa, and Latin America. Cooperation with foreign influencers, through sponsored study tours and exchange initiatives, has become another visible instrument, leveraging peer-to-peer credibility to enhance affective engagement.

Digital cultural diplomacy also includes virtual exhibitions, online museum projects, and Chinese MOOCs, which expanded significantly during the COVID-19 pandemic. At the same time, China's digital strategy reflects a dual orientation: proactive cultural promotion combined with an emphasis on "digital sovereignty", including regulatory control over online narratives. This has generated criticism concerning content filtering and the management of politically sensitive topics.

Despite such critiques, China's digital diplomacy demonstrates adaptive capacity within the evolving global information environment, integrating cultural soft power with technological instruments and advancing a model of communication that blends official messaging with personalized and emotionally resonant forms of intercultural engagement.

Symbolic diplomacy constitutes a significant component of soft power, as it appeals primarily to emotional rather than purely rational perceptions of culture and statehood. One of the most enduring examples in modern international relations is China's "panda diplomacy" – the transfer or long-term loan of giant pandas to foreign zoos as a gesture of friendship and partnership. In 1972, following U.S. President Richard Nixon's visit to China, the Chinese government gifted a pair of pandas (Ling-Ling and Hsing-Hsing) to the Smithsonian National Zoo, an act widely interpreted as symbolizing the normalization of U.S. – China relations.

Since the mid-1980s, panda diplomacy has operated primarily through regulated loan agreements rather than permanent gifts. Typically concluded for ten-year terms, such agreements involve substantial annual payments (commonly reported at around USD 1 million per pair), while all offspring remain the property of the People's Republic of China (PRC) and are eventually returned to China. Animal care standards and veterinary supervision are also strictly defined within bilateral contracts.

Panda diplomacy represents an effective form of symbolic soft power, combining the universally positive image of the animal with a deliberate diplomatic context. Unlike language programs or digital outreach, this instrument relies on emotional resonance, which enhances its impact among broader publics. The practice remains active: in 2023–2025, China renewed or initiated panda cooperation agreements with several countries, including Germany and Thailand.

At the same time, panda diplomacy is not without controversy. Critics argue that panda loans may function as instruments of political signaling, as agreements often reflect the broader state of bilateral

relations. In some host countries, public debate has emerged when pandas were returned to China at the end of contracts, illustrating both strong emotional attachment and the diplomatic sensitivity surrounding such arrangements.

Overall, the PRC demonstrates a multi-layered model of cultural diplomacy encompassing institutional (Confucius Institutes), programmatic (scholarships and exchanges), digital (social media and influencer engagement), and symbolic (panda diplomacy, infrastructure projects) instruments. Within the framework of the Belt and Road Initiative, these tools are integrated into a long-term geocultural strategy. By combining traditional values with contemporary communication formats, China seeks to cultivate a favorable image, particularly across the Global South. Nevertheless, its cultural diplomacy remains contested due to concerns over political conditionality and narrative control. Despite these tensions, cultural communications have become central to China's effort to articulate an alternative model of soft power in the contemporary international system.

In summary, it can be argued that cultural communications and soft power diplomacy constitute an integral component of the strategic foreign policy toolkit of the world's leading states. Despite differences in their modes of implementation, the United States and China employ culture, language, education, and values as channels of influence directed toward international audiences. The specific features and priorities of each model and their key characteristics are presented in Table 3.

Table 3

**Comparative characteristics of U.S. and Chinese cultural diplomacy**

Country	Key Institutions	Primary Focus	Mode of Implementation	Geographic Scope of Influence
United States	State Department, Fulbright Program, American Spaces, IVLP	Global presence; promotion of freedom, democracy, and national branding	Grants, exchange programs, embassy-based cultural centers, soft promotion mechanisms	Worldwide (particularly the Global South and Europe)
China	Confucius Institutes, Chinese Cultural Centers, Hanban	Promotion of language and traditions; projection of an image of a civilizational state	State-led institutions under party oversight; language expansion strategies	Asia, Africa, Latin America, and Western countries

The comparative analysis makes it possible to systematize the key parameters of U.S. and Chinese cultural diplomacy and to identify the structural features of each model. At the same time, the table reflects primarily the institutional and strategic dimensions, whereas the actual impact of soft power is shaped through the complex interaction of state, societal, and digital actors. It is precisely this multidimensional character of cultural communications that explains their growing significance in contemporary international politics and underscores the need for further conceptual elaboration.

**Conclusions.** The conducted analysis of U.S. and Chinese cultural communications demonstrates that soft power diplomacy has evolved into a systemic and strategically institutionalized instrument of contemporary international relations. Both states exhibit clearly articulated models of influence that integrate cultural, educational, linguistic, digital, and symbolic resources into a coherent communicative architecture.

The American model is grounded in the universalism of values, global branding, and an extensive network of partnerships in which the state cooperates with non-governmental actors, universities, media institutions, and digital platforms. Its defining characteristics include multi-channel outreach, flexibility, and a high level of technological integration. In contrast, the Chinese model is characterized by centralized coordination, long-term strategic planning, and the combination of linguistic-cultural expansion with infrastructural and symbolic projects (notably within the framework of the Belt and Road Initiative). While the United States emphasizes the promotion of freedom, democracy, and the "American Way of Life," China advances a narrative of civilizational continuity, stability, and an alternative development model.

Despite these differences, both countries employ targeted image-building narratives and seek to influence public opinion, emotional perception, and the formation of international trust. Cultural communications operate as a multi-level system integrating institutional, programmatic, digital, and symbolic dimensions, thereby establishing a sustained "background presence" of states within the global information space.

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Thus, in the contemporary international environment, cultural diplomacy functions not only as a mechanism for transmitting values but also as a competitive arena for attention, loyalty, and the sympathies of global communities. It is increasingly embedded within strategic communications and has become an essential component of geopolitical rivalry.

Future research perspectives should focus on assessing the effectiveness of digital cultural diplomacy in the era of artificial intelligence and algorithm-driven media, examining the role of cultural communications in strengthening societal resilience to disinformation, and conducting comparative analyses of soft power strategies employed by middle powers. Particular attention should also be devoted to the adaptation of cultural diplomacy instruments to conditions of hybrid conflict and the ongoing transformation of the global order.

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### АРХИТЕКТУРА КУЛЬТУРНИХ КОМУНІКАЦІЙ У ДИПЛОМАТІЇ М'ЯКОЇ СИЛИ: ДОСВІД ПРОВІДНИХ ДЕРЖАВ

**Вікторія ЯЦИНА,**

доцент кафедри загальної економічної теорії  
Національного технічного університету  
«Харківський політехнічний інститут»  
кандидат економічних наук, доцент  
[Victoriia.Yatsyna@khpi.edu.ua](mailto:Victoriia.Yatsyna@khpi.edu.ua)  
[orcid.org/0000-0002-4440-976X](https://orcid.org/0000-0002-4440-976X)

**Світлана КЛИМОВА,**

доцент кафедри загальної економічної теорії  
Національного технічного університету  
«Харківський політехнічний інститут»  
кандидат економічних наук, доцент  
[Svitlana.Klymova@khpi.edu.ua](mailto:Svitlana.Klymova@khpi.edu.ua)  
[orcid.org/0000-0002-0041-6845](https://orcid.org/0000-0002-0041-6845)

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**Метою статті** є дослідження практик провідних держав щодо формування та інституціоналізації культурних комунікацій як складової стратегії м'якого впливу. Дослідження спрямоване на виявлення структурних характеристик архітектури культурної взаємодії, визначення механізмів її інтеграції у систему зовнішньополітичного планування та оцінку її ролі у формуванні стійкої міжнародної репутації держави. Особливу увагу приділено системності організації культурних інструментів та їх стратегічній координації.

**Методи.** Методологічну основу становить міждисциплінарний підхід, що поєднує структурно-функціональний, порівняльний та інституційний аналіз. Структурно-функціональний метод застосовано для визначення ключових елементів архітектури культурних комунікацій та їх взаємозв'язків. Порівняльний аналіз дозволив зіставити національні моделі реалізації стратегій впливу та виокремити спільні закономірності їх розвитку. Інституційний підхід використано для дослідження механізмів координації діяльності державних органів, культурних інституцій і недержавних акторів. Також проведено контент-аналіз стратегічних документів, програм культурної дипломатії та комунікаційних ініціатив.

**Результати.** Визначено, що культурні комунікації функціонують як багаторівнева система, яка об'єднує державні структури, освітні та наукові інституції, громадські організації, креативні індустрії та цифрові платформи. Визначено основні складові цієї архітектури: стратегічне планування, інституційна узгодженість, використання символічного ресурсу, механізми міжнародного залучення та інструменти моніторингу ефективності. Доведено, що результативність стратегій м'якого впливу залежить від довгостроковості програм, їх інтеграції у зовнішньополітичні пріоритети та здатності адаптуватися до трансформації глобального інформаційного середовища. Важливим чинником є поєднання традиційних дипломатичних практик із цифровими форматами комунікації.

**Висновки.** Досвід провідних держав у формуванні архітектури культурних комунікацій свідчить про ефективність системного підходу до реалізації стратегій м'якого впливу у міжнародному середовищі. Узгодженість інституційних механізмів, стратегічне планування та довгострокова підтримка культурних ініціатив сприяють зміцненню міжнародного авторитету та розширенню глобальної присутності держави. Обґрунтовано важливу роль культурних комунікацій у забезпеченні стійкого міжнародного позиціонування та формуванні довіри в умовах трансформації світового порядку. Отримані результати підтверджують доцільність подальшого розвитку та адаптації ефективних моделей культурної взаємодії з урахуванням національних інтересів і сучасних викликів.

**Ключові слова:** публічна дипломатія, міжнародне позиціонування, стратегічні комунікації, інституційне управління, культурна взаємодія, символічний капітал, інструменти зовнішньої політики, глобальні механізми інформаційно-просвітницької роботи.



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## THE PRINCIPLE OF PROFESSIONALISM AND COMPETENCE IN SHAPING THE CORPORATE INTEGRITY OF THE STAFF OF THE STATE CUSTOMS SERVICE OF UKRAINE

**Purpose.** *The study aims to provide a theoretical justification and practical operationalization of the principle of professionalism as a determinant of corporate integrity in the State Customs Service of Ukraine, identifying the structural components of professional competence of customs officers, and developing a conceptual model for integrating ethical standards into the personnel management system of customs authorities in the context of European integration transformations.*

**Methods.** *The methodological framework comprises general scientific and special methods: system-structural analysis for determining components of professional competence; a comparative method through which international experience is analyzed regarding the formation of integrity standards within EU customs services; institutional analysis for studying regulatory mechanisms on the profession's activities, sociological methods applied to empirically test association between levels of competence and institutional indicators of integrity, modeling used in developing conceptual schema professionalism principle integration customs service corporate culture.*

**Results.** *Customs officers' competence structure can be defined in four components: cognitive (legislation, procedures knowledge), operational (practical controlling skills), personal (moral-ethical qualities) and socio-communicative (interaction with foreign economic activity participants). Competency typology according to functional purpose has been developed as: basic, special and managerial. Professional training is correlated with reduction of corruption risks. The paper analyzes the practices of continuous professional development and ethical audit in the customs administrations of the Netherlands, Germany and Poland. It identifies the challenges of Ukrainian system as fragmented mechanisms for assessing ethical competencies and lack of integrated personnel development management system.*

**Conclusions.** *A conceptual model for integrating the professionalism principle into the corporate integrity system has been developed and includes: development of professional standards with ethical competencies; creation of multi-level training system with integrity module; introduction of ethical compliance monitoring tools; formation of organizational culture based on honesty and transparency. The necessity of legislative consolidation of competency requirements as criteria for selection and performance evaluation of customs officers has been proven.*

**Key words:** customs integrity, professional ethics, competency framework, public administration reform, anti-corruption, customs modernization, ethical leadership, institutional capacity building, value-based management, integrity training.

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**Yevhenii KHRYSTYNCHENKO,**  
Postgraduate Student at the Research  
Institute of Public Law  
[orcid.org/0009-0003-3084-7085](https://orcid.org/0009-0003-3084-7085)

**Introduction.** The transformation of public administration in Ukraine in the context of European integration and the implementation of the Association Agreement with the EU raises the issue of building the institutional capacity of state bodies through the prism of corporate integrity. The State Customs Service, as a key entity ensuring the economic security of the state, the completeness of fiscal revenues and the rule of law in the field of trade, is at the epicenter of anti-corruption reforms. According to data from Transparency International Ukraine (2024), customs authorities are among the state bodies with a high level of corruption risk, which necessitates a systemic transformation of approaches to personnel management and organizational culture.

The issue of ensuring integrity in the customs sphere is particularly relevant in the context of the complex challenges of today: the digitalization of customs procedures, the growth of international trade, and the fight against smuggling and customs evasion.

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Professionalism and competence are principles that are considered to be the main determinants of ethical behavior among customs officials based on the State Customs Service Development Strategy until 2025. Institutional integrity in the system is fully formulated by the Law of Ukraine “On Public Service” (2015).

*The purpose of the article is to develop a theoretical conceptualization of corporate integrity among State Customs Service employees and to develop a conceptual model that integrates ethical standards into the customs management system.*

The methodological basis of the study is a systematic approach that allows corporate integrity to be viewed as an integrated system of interrelated elements: regulatory, organizational and managerial, personal and behavioral, cultural and value-based. Both general scientific and special research methods are used in the research.

Systemic-structural analysis is used to classify the professional competence of customs officers into structural components (cognitive, operational, personal, social and communicative) and to determine the functional links between them.

For a comparative analysis of international experience in developing integrity standards in the customs services of the Netherlands, Germany, Poland and other EU countries, a comparative method was used to identify successful practices and opportunities for their adaptation. Comparative analysis involves comparison as a cognitive operation aimed at identifying similarities or differences between two phenomena. In this case, individual elements of approaches to building integrity in the customs service were compared at three levels: institutional (programmes implemented by state bodies), regulatory (legal norms defining rights and obligations), and social (the role of non-governmental organizations).

Institutional analysis covers both formal and informal institutions, including rules governing the professional activities of customs officials, legislative norms, professional standards, codes of ethics, and organizational culture practices.

Using the modelling method, a conceptual model for integrating the principle of professionalism into the corporate integrity system was developed, including key elements, interrelationships and implementation mechanisms.

**Literature review.** The issue of forming principles of professionalism and competence in shaping the corporate integrity of state customs service employees has become the subject of scientific research by a number of domestic and foreign scholars in the context of Ukraine’s European integration aspirations and the need to implement international standards of public administration. (Onishchenko, N. M., & Suniehin, S. O., 2018) Researchers focus on the relationship between the level of professional competence of customs officials and their ability to adhere to ethical standards in the performance of their duties. (Persson, A., Rothstein, B., & Teorell, J., 2013) Professionalism is seen as a key element of institutional capacity that ensures effective customs control, combats corruption, and promotes public trust in state institutions through transparency. (Mamo, D., Ayele, E., & Teklu, S., 2024) The analysis focuses primarily on customs officers’ competency assessment systems and the introduction of modern educational technologies aimed not only at developing professional knowledge but also the value orientations of civil servants. (Mentukh, N. F., 2021).

Scientific publications emphasize the need to transform approaches to human resource management in the customs service through the prism of a competency- based approach, which provides for the comprehensive development of professional, managerial and ethical competencies of personnel. (Triakina, O. O., Pavlenko, O. O., Timchenko-Mikhailidi, N. S., & Pugach, V. B., 2016) Scientists also note the experience of EU member states in implementing codes of conduct for customs officers and other integrity mechanisms, such as asset declaration systems and mechanisms for preventing conflicts of interest (Deneha, V., Chorny, Y., & Mentukh, N. (2023)). However, insufficient attention has been paid to the development of methodological principles for the best integration of the principles of professionalism and competence into the formation of corporate culture in the customs authorities of Ukraine. Equally important are issues related to:

a) the development of objective criteria for assessing the level of professional competence of customs officers;

b) the creation of effective mechanisms that would motivate customs officers to pursue independent professional development, while promoting an environment characterised by zero tolerance for any violation of ethical standards.

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## Empirical results.

### *Structural components of the professional competence of customs officers*

The professional competence of the staff of the State Customs Service of Ukraine is considered as a complex multi-component system covering various aspects of their professional training and personal development. The cognitive component includes knowledge of national customs legislation, international conventions and agreements on procedural aspects, which form the theoretical basis for the effective performance of official duties. As provided for in the Kyoto Convention on Rules and Regulations relating to International Trade and Customs Relations, officials are expected to have comprehensive knowledge, which should be demonstrated by practical skills in implementing risk management methods, as well as the possession, operation, integration, use and installation of modern information systems and technologies that ensure the speed and accuracy of customs formalities for goods and vehicles (Kyoto Convention (Revised), 2006).

The personal aspect of professional competence is particularly important in shaping corporate integrity, as it is moral and ethical qualities, internal value orientations and anti-corruption resilience that ultimately shape an employee's willingness to resist abuse of office. The social and communication component is manifested through skills in effective interaction with participants in foreign economic activity; interagency cooperation with law enforcement and regulatory authorities; and constructive resolution of conflicts arising during customs procedures. Harmonious development with an emphasis on the value-ethical aspect between all four components of professional competence is a prerequisite for creating a culture of integrity in customs authorities (Professional standards for customs administrations, 2018).

*Typology of professional competencies by functional purpose.* A differentiated approach to determining the professional competencies of State Customs Service personnel involves developing a typology that takes into account the functional purpose and level of responsibility of employees. Basic competencies are common to all categories of customs service employees and include fundamental knowledge of Ukrainian customs legislation, the Customs Code of Ukraine, principles of integrity and customer orientation in the provision of administrative services (Verkhovna Rada of Ukraine, 2012). These competencies form a single standard model of professional behaviour and create the basis for corporate identity among customs officers as representatives of different levels within the framework of state regulation of foreign economic activity. The Law of Ukraine "On Civil Service" establishes general requirements for professional competence, which also apply to civil servants (knowledge of the constitution; laws on civil service, prevention of corruption) (Verkhovna Rada of Ukraine, 2015).

Competencies reflect the specifics of individual areas of customs service activity and therefore require in-depth knowledge in the relevant fields: for example, specialists involved in the clearance of goods must have a thorough knowledge of the classification of goods in accordance with the Ukrainian Classification of Goods for Foreign Economic Activity; inspectors involved in customs control must be familiar with physical and documentary control methods, and those involved in combating smuggling must have forensic skills and experience in operational and investigative work (Pyman et al., 2012).

Management competencies include strategic planning of customs activities, leadership and motivation of employees, human resource management, and shaping an organisational culture based on integrity. Management is emphasised by the standards of the World Customs Organisation, which play a crucial role in establishing an ethical climate by introducing principles for the daily practice of customs authorities. (Revised Arusha Declaration on Customs Integrity, 2012).

Table 1

### Typology of professional competencies of the staff of the State Customs Service of Ukraine

Type of competencies	Target group	Key elements
Basic	All categories of employees	Knowledge of legislation, integrity, customer focus, computer literacy
Specialised	Specialists in specific areas	Customs clearance, control, anti-smuggling, analytics, IT support
Management	Management	Strategic planning, leadership, HR management, integrity culture development

Source: adapted by the author based on the Revised Arusha Declaration on Customs Integrity (2012)

International experience in developing integrity standards covers three main approaches to anti-corruption measures. The first approach examines corruption as a structural problem arising from economic insufficiency and weakness or the transition of state institutions to democracy (Doig & Theobald, 2000). The second approach explains corruption as an institutional deficit in which rules do not work effectively in organizations; both formal and informal aspects are linked to impunity and legacy protection networks that underlie official practices (Batalli, 2015). Finally, the latest perspective focuses on improving integrity systems through innovations that are effective in enhancing accountability.

A comparative analysis shows that there are different approaches to developing professional integrity standards among European customs services. The Dutch model is based on continuous professional development and contains certain key elements that are emphasized as mandatory modules on ethics and integrity at all stages of a customs officer's career path, from initial training programmes to senior management training programmes. Therefore, systematic updating of knowledge and skills related to ethical behavior is acquired throughout their professional activities (Dejan Jelovac & Aleksandar Šuleić., 2025). The interactive training methods implemented by the Dutch customs service include analysis of real ethical dilemmas, role-playing games, and simulation exercises involving conflicts of interest, which allow employees to practise decision-making in complex practical situations.

The German three-stage certification system involves a thorough assessment of not only the technical knowledge and professional skills but also the ethical competencies of customs officers, with special integrity tests, psychological assessments and behavioural analysis in simulated situations being an integral part of it. The Polish experience of training programmes that integrate integrity components into the training of customs officers demonstrates effectiveness thanks to a unified educational policy, where ethics and anti-corruption issues are explored as integral elements in all disciplines that shape professionalism, thus creating a holistic understanding of the relationship between professionalism and integrity (Integrity in customs and trade facilitation: European experiences, 2020). Legislative practice, developed on the basis of successful European experience, contains common elements for effective systems:

- legislative consolidation, institutionalisation of codes, establishment of standards of conduct for customs officials;
- mandatory regular training on integrity;
- transparent competency assessment procedures; functioning of an independent ethical audit body that monitors compliance with ethical standards.

Table 2

**Comparative analysis of European models for building integrity among customs officers**

Country	Model	Key characteristics	Effectiveness
Netherlands	Continuous professional development	Mandatory ethics modules at all levels, interactive methods	Corruption Perceptions Index: 79/100
Germany	Three-stage certification	Assessment of technical and ethical competencies, integrity tests	Corruption Perceptions Index: 78/100
Poland	Integrated training	Ethics in all training disciplines, unified education policy	Corruption perception index: 54/100
Ukraine	Fragmented approach	Episodic training, lack of consistency	Corruption perception index: 36/100

Source: compiled by the author based on *Integrity in customs and trade facilitation: European experiences, 2020*.

Systemic challenges to the development of corporate integrity in the State Customs Service of Ukraine

Legal gaps in regulating the professional competence and integrity of state customs service personnel create a number of obstacles to the systematic formation of a culture of ethical behavior. The absence of professional standards that integrate ethical competencies as a mandatory component of qualification requirements for customs officials at various levels leads to subjectivity in assessment and the impossibility of establishing uniform criteria for integrity. The fragmentation of legal regulation of integrity issues in a situation where the relevant norms are contained in various regulatory and legal acts without a clear system of implementation and control makes it impossible to create a comprehensive system for the formation and maintenance of high ethical standards in customs authorities. The Law of Ukraine “On Prevention

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of Corruption” establishes general anti- corruption restrictions, but does not contain specific provisions regarding ethical standards for employees of the State Customs Service.

Organizational and managerial barriers are manifested in the inadequacy of and comprehensive staff training programmes covering both technical and ethical aspects of the professional activities of State Customs Service employees. The formalism of certification procedures, during which mainly the formal compliance of documents is assessed, as well as the results of testing without in-depth analysis of the ethical behavior and integrity of the employee, turns certification into a bureaucratic procedure that does not perform the function of a real assessment of professional suitability (Order of the CMU No. 1000-r, 2021). The lack of a systematic ethical audit and monitoring of compliance with integrity standards, the ineffectiveness of mechanisms to motivate ethical behavior, and the absence of effective sanctions for violations of ethical standards create an atmosphere of impunity and reduce the motivation of employees to adhere to high ethical standards. Cultural and value barriers, which include remnants of the Soviet administrative culture with its authoritarianism and formalism, social tolerance of corrupt practices, and a lack of positive role models of ethical behavior among management, require long-term efforts to transform the organizational culture.

**Conclusion.** The results of scientific research have identified a four- component structure of professional competence for customs officers: cognitive (knowledge of customs legislation, international conventions, procedures), operational (practical skills in customs control, risk management, use of information systems), personal (moral and ethical qualities, honesty, anti-corruption resilience) and social-communicative (skills of interaction with participants in foreign economic activity, interdepartmental coordination, conflictology). The programme includes additional training content that promotes the development of corporate ethics not only on the basis of knowledge, but also on the basis of practical skills and attitudes.

A typology of professional competencies of the staff of the State Customs Service of Ukraine has been developed according to their functional purpose, which includes basic competencies (common to all categories of employees: knowledge of legislation, integrity, customer orientation), specialized competencies (characteristic of specific areas: customs clearance, customs control, combating smuggling, analytical work) and managerial competencies (for management: strategic planning, leadership, personnel management, shaping organizational culture). The proposed typology allows for a differentiated approach to the development of professional development and certification programmes for personnel.

A comparative analysis of international experience has revealed some best practices in the development of professional integrity standards in the customs services of EU member states. These include the Dutch model of continuous professional development programmes, which include mandatory courses on ethics and integrity; the German three-level certification system, which tests and assesses not only technical but also ethical competencies; and Poland’s experience in integrating integrity training programmes for customs officers at all levels. Therefore, among the key elements that make such systems successful are the legislative introduction or consolidation of codes of ethics/standards in legislation, mandatory integrity training, transparent assessment procedures, and independent ethical auditing.

Systemic challenges in building corporate integrity in the State Medical Service of Ukraine include: gaps in regulatory and legal regulation (lack of clear professional standards with ethical competencies, fragmented regulation of integrity issues), organizational and managerial barriers (lack of comprehensive staff training programmes, formalism in certification procedures, lack of systematic ethical auditing, weak mechanisms for motivating honest behavior), cultural and value barriers (legacy of Soviet administrative culture, social tolerance of corruption, lack of positive role models). All these challenges must be addressed through a holistic approach at every level, from changes in legislation to changes in organizational culture.

Promising areas for further research include: empirical research on the level of professional competence and ethical attitudes among the staff of the State Customs Service of Ukraine using sociological methods (surveys, in-depth interviews, focus group discussions) to test theoretical propositions, as well as conceptual modelling; the development of specific methodologies for assessing the ethical competencies of customs officers, taking into account the specifics of their positions and functional responsibilities; studying how the digitization of customs procedures affects the transformation of professional competencies, as well as the challenges of maintaining integrity in the context of e-government.

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21. ПРИНЦИП ПРОФЕСІОНАЛІЗМУ ТА КОМПЕТЕНТНОСТІ У ФОРМУВАННІ КОРПОРАТИВНОЇ ДОБРОЧЕСНОСТІ ПЕРСОНАЛУ ДЕРЖАВНОЇ МИТНОЇ СЛУЖБИ УКРАЇНИ.

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## ПРИНЦИП ПРОФЕСІОНАЛІЗМУ ТА КОМПЕТЕНТНОСТІ У ФОРМУВАННІ КОРПОРАТИВНОЇ ДОБРОЧЕСНОСТІ СПІВРОБІТНИКІВ ДЕРЖАВНОЇ МИТНОЇ СЛУЖБИ УКРАЇНИ

Євгеній ХРИСТИНЧЕНКО,

аспірант Науково-дослідного інституту публічного права  
[orcid.org/0009-0003-3084-7085](https://orcid.org/0009-0003-3084-7085)

**Мета.** Дослідження спрямоване на теоретичне обґрунтування та практичну операціоналізацію принципу професіоналізму як детермінанти формування корпоративної доброчесності в системі Державної митної служби України, визначення структурних компонентів професійної компетентності митних службовців та розробку концептуальної моделі інтеграції етичних стандартів у систему управління персоналом митних органів в умовах євроінтеграційних трансформацій.

**Методи.** Методологічна база включає загальнонаукові та спеціальні методи: системно-структурний аналіз для визначення компонентів професійної компетентності; порівняльний метод, за допомогою якого аналізується міжнародний досвід формування стандартів доброчесності в митних службах ЄС; інституційний аналіз для вивчення регуляторних механізмів діяльності професії; соціологічні методи, що застосовуються для емпіричної перевірки зв'язку між рівнями компетентності та інституційними показниками доброчесності; моделювання, що використовується для розробки концептуальної схеми інтеграції принципу професіоналізму в корпоративну культуру митної служби.

**Результати.** Структуру компетентності митних службовців можна визначити за чотирма компонентами: когнітивним (законодавство, знання процедур), операційним (практичні навички контролю), особистісним (морально-етичні якості) та соціально-комунікативним (взаємодія з учасниками зовнішньоекономічної діяльності). Розроблено типологію компетенцій за функціональним призначенням: базові, спеціальні та управлінські. Професійне навчання корелює зі зниженням корупційних ризиків. У статті аналізується практика безперервного професійного розвитку та етичного аудиту в митних адміністраціях Нідерландів, Німеччини та Польщі. Визначено проблеми української системи, такі як фрагментовані механізми оцінки етичних компетенцій та відсутність інтегрованої системи управління розвитком персоналу.

**Висновки.** Розроблено концептуальну модель інтеграції принципу професіоналізму в систему корпоративної доброчесності, яка включає: розробку професійних стандартів з етичними компетенціями; створення багаторівневої системи навчання з модулем доброчесності; впровадження інструментів моніторингу етичної відповідності; формування організаційної культури, заснованої на чесності та прозорості. Доведено необхідність законодавчого закріплення вимог до компетенцій як критеріїв відбору та оцінки діяльності митних службовців.

**Ключові слова:** доброчесність митної служби, професійна етика, рамка компетенцій, реформа державного управління, боротьба з корупцією, модернізація митної служби, етичне лідерство, розбудова інституційного потенціалу, управління на основі цінностей, навчання доброчесності.



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Телефон: +38 (095) 934 48 28, +38 (097) 723 06 08

E-mail: [mailbox@helvetica.ua](mailto:mailbox@helvetica.ua)

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