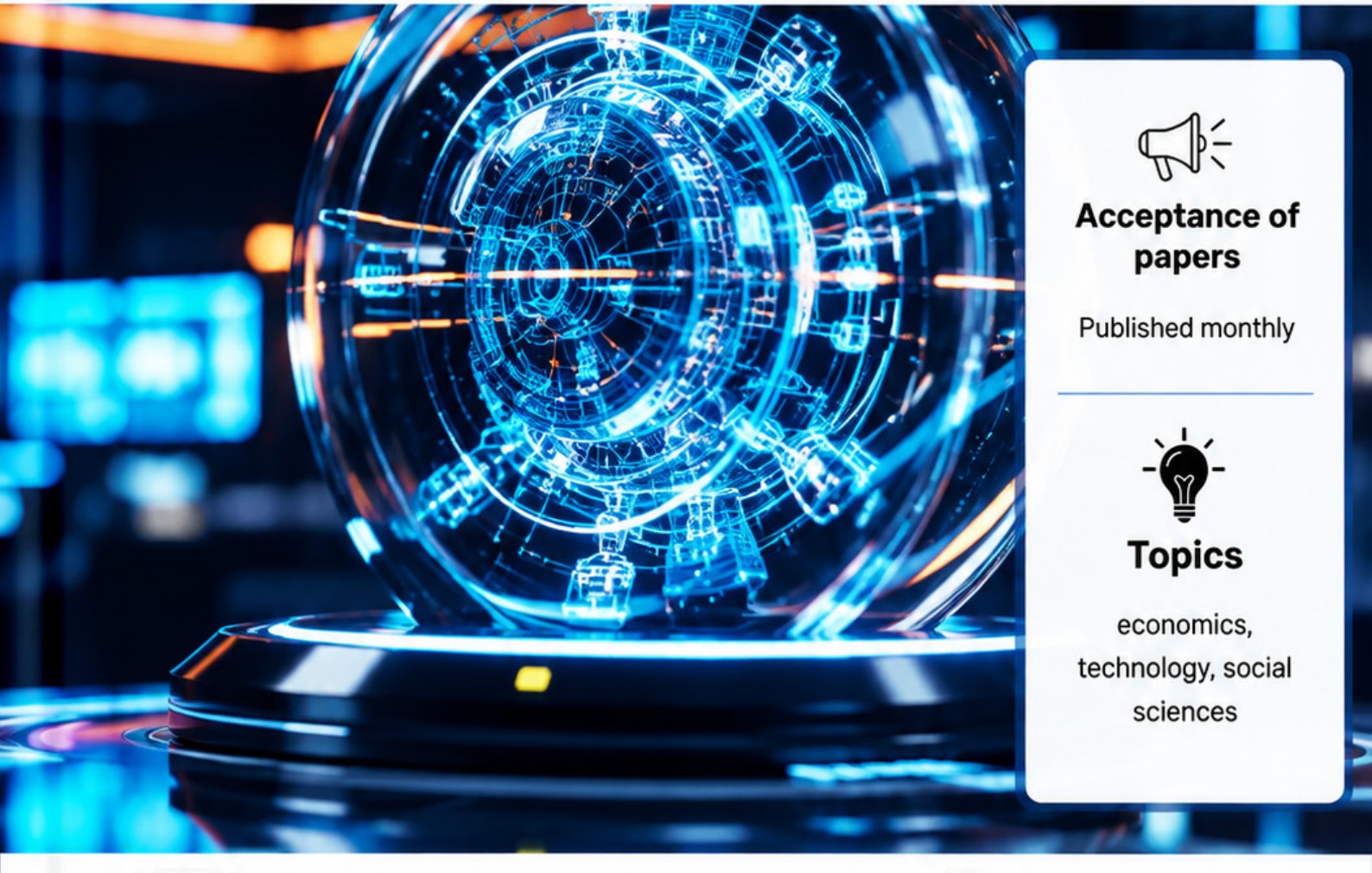
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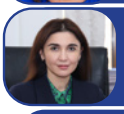

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ECONOMIC LINKAGE BETWEEN CORPORATE GOVERNANCE AND SERVICE QUALITY IN TRANSPORT ENTERPRISES WITH STATE CAPITAL PARTICIPATION

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Abstract: The article examined the economic linkage between corporate governance and service quality in transport enterprises with state capital participation. Drawing on incomplete contract theory, the multitask agency model and service quality concepts, the author argued that governance instruments could be used to manage the balance between quality and cost. A weighted integral service quality index and a measure of the quality elasticity of demand were proposed. Official statistics showed that in 2021-2025 passenger numbers rose 3.23-fold in air transport, 2.82-fold on the metro and 1.33-fold in rail transport; this dynamic was interpreted as a demand-side quality signal. These rates exceeded the 1.31-fold growth of the transport system as a whole. A quality gap model linking a board-level quality committee, customer-oriented KPIs and service contracts was developed. The article closed with proposals to make quality indicators a mandatory element of corporate governance.

Keywords: corporate governance, state-owned enterprise, service quality, transport, quality index, quality elasticity of demand, supervisory board, service contract.

Annotatsiya: Maqolada davlat kapitali ishtirokidagi transport korxonalarida korporativ boshqaruv va xizmatlar sifati o‘rtasidagi iqtisodiy bog‘liqlik o‘rganildi. Muallif to‘liq bo‘lmagan shartnomalar nazariyasi, ko‘p vazifali agentlik modeli va xizmat sifati konsepsiyalarini birlashtirib, sifat va xarajat o‘rtasidagi muvozanatni boshqaruv vositalari orqali tartibga solish mantiqini asosladi. Xizmat sifatining vaznli integral indeksi va talabning sifatga nisbatan elastikligi ko‘rsatkichi taklif etildi. Rasmiy statistika asosida 2021–2025-yillarda havo transportida yo‘lovchilar soni 3,23 barobar, metropolitenda 2,82 barobar, temir yo‘lda 1,33 barobar ortgani aniqlandi va bu dinamika sifatga oid talab signali sifatida talqin qilindi. Kuzatuv kengashi qoshidagi sifat qo‘mitasi, mijozga yo‘naltirilgan KPI va xizmat shartnomalarini birlashtiruvchi sifat bo‘shliqlari modeli ishlab chiqildi. Natijalar transport korxonalarida sifat ko‘rsatkichlarini korporativ boshqaruvning majburiy elementiga aylantirish bo‘yicha takliflar bilan yakunlandi. Ushbu sur’atlar jami transport tizimidagi 1,31 barobar o‘sishdan yuqori bo‘ldi.

Kalit so‘zlar: korporativ boshqaruv, davlat ishtirokidagi korxona, xizmat sifati, transport, sifat indeksi, talab elastikligi, kuzatuv kengashi, xizmat shartnomasi.

Аннотация: В статье исследована экономическая взаимосвязь между корпоративным управлением и качеством услуг в транспортных предприятиях с участием государственного капитала. Автор объединил теорию неполных контрактов, многозадачную агентскую модель и концепции качества услуг и обосновал логику регулирования баланса между качеством и издержками с помощью инструментов управления. Предложены взвешенный интегральный индекс качества услуг и показатель эластичности спроса по качеству. На основе официальной статистики установлено, что в 2021-2025 гг. число пассажиров воздушного транспорта выросло в 3,23 раза, метрополитена в 2,82 раза, железнодорожного транспорта в 1,33 раза, и эта динамика интерпретирована как сигнал спроса на качество. Разработана модель разрывов качества, объединяющая комитет по качеству при наблюдательном совете, клиентоориентированные KPI и сервисные контракты. Результаты завершены предложениями по превращению показателей качества в обязательный элемент корпоративного управления. Эти темпы превысили рост всей транспортной системы в 1,31 раза.

Ключевые слова: корпоративное управление, предприятие с государственным участием, качество услуг, транспорт, индекс качества, эластичность спроса, наблюдательный совет, сервисный контракт.

INTRODUCTION

Economic theory treats a transport service as a composite good defined by quality parameters as well as by price and volume. For the user of the service, a train that leaves on schedule, a comfortable carriage, an easy ticket purchase and complete passenger information are worth no less than the fare. Most of these quality parameters cannot be fully written into a contract and are hard to verify in court. Building on incomplete contract theory, Hart, Shleifer and Vishny showed that the choice between public and private ownership turns on precisely this feature: a manager with strong incentives to cut costs may be inclined to degrade non-verifiable quality, whereas in a state-owned enterprise such incentives are weaker and there is more scope to maintain quality [5].

In later work Shleifer generalised this logic, arguing that state ownership is economically justified where competition is weak, quality is difficult to secure by contract and consumer choice is limited, and that under such conditions performance depends more on the quality of the governance system than on the form of ownership [13]. The multitask agency model of Holmstrom and Milgrom provides the microeconomic foundation for this conclusion. When an agent performs several tasks at once and only some of them are measured precisely, strong incentives on the measurable task divert resources away from the unmeasured one [8]. For the management of a transport enterprise, cost indicators are measured precisely, while service quality is usually observed only indirectly. This imbalance of incentives defines the central task of corporate governance: to turn quality into an indicator that is measured, reported and rewarded.

Grönroos's model offers an important theoretical basis for defining what service quality consists of. He described quality as the unity of a technical outcome (what the customer receives) and a functional process (how the service is delivered), showing that the customer's assessment arises from comparing expectations with the service actually received, while corporate image acts as a filter on that assessment [4]. In transport services the technical outcome is the passenger's safe and timely arrival at the destination; the functional process is expressed in staff conduct, information and comfort. Both dimensions depend directly on corporate governance decisions: investment in rolling stock shapes the technical outcome, and personnel policy and standards shape the functional process.

These theoretical views allow a state-owned transport enterprise to be described as an entity with a dual mandate. On the one hand, it is accountable to the state as shareholder for financial sustainability and cost efficiency; on the other, it provides society with accessible, safe and high-quality mobility services. The balance between these mandates does not arise automatically. It is shaped by the institutions that govern relations among the supervisory board, the executive body and the state shareholder. The aim of the article is to provide a theoretical grounding for the economic linkage between corporate governance and service quality in transport enterprises with state capital participation and to develop practical instruments for managing it. To this end, the following objectives were set: to identify the theoretical mechanism of the quality-cost balance, to propose an integral measure of quality, to assess passenger traffic dynamics as a demand signal of quality, and to develop a model linking governance instruments to quality gaps.

REVIEW OF LITERATURE ON THE SUBJECT

The empirical literature on measuring service quality in public transport began by isolating the attributes that make up customer satisfaction. Using a survey of bus passengers and a structural equation model, Eboli and Mazzulla found that service frequency, reliability, information and fare had the strongest effect on overall satisfaction [2]. Importantly, the authors represented service quality not as a single indicator but through several latent dimensions under the operator's control. This approach creates a methodological precondition for making quality an object of management, since a responsible unit and a target value can be assigned to each dimension.

Subsequent developments in quality measurement were synthesised by de Oña and de Oña. Classifying approaches based on customer satisfaction surveys, they traced an evolution from descriptive statistics to structural models, discrete choice models and data mining techniques, and argued that subjective ratings need to be combined with the operator's objective performance indicators [1]. This conclusion matters for corporate governance: a supervisory board that relies only on passenger opinion, or only on technical indicators, will have an incomplete picture of quality.

The idea of building quality indicators into contractual relations was put into practical form by Hensher and his co-authors. Hensher, Stopher and Bullock developed a weighted service quality index for bus services based on passenger preferences and showed that it could be used to benchmark and monitor operators and to set contract terms [7]. Hensher and Stanley proposed performance-based quality contracts, under which the operator receives a base payment for a minimum social level of service and an additional incentive for

increasing patronage [6]. Taken together, the two studies demonstrate that the link between quality and financial results can be managed through contracts.

Valuing the economic return to quality is a question for demand theory. Summarising extensive evidence on public transport demand, Paulley et al. showed that patronage responds to service frequency, journey time and other quality parameters as well as to fares, and that quality improvements raise demand in a sustained way [11]. This result makes it possible to set spending on quality against revenue and social benefits, so that quality moves from a cost item to an object of investment.

The relationship between ownership, governance reform and the performance of transport enterprises has also been studied in depth. In a panel of European railway systems, Friebel, Ivaldi and Vibes found that reforms such as open network access, an independent regulator and vertical separation improved efficiency, with stronger results when reforms were introduced sequentially [3]. Using the world's major airports, Oum, Adler and Yu showed that fully government-owned corporatised airports did not differ significantly in efficiency from private ones [10]. This finding confirms that corporatisation and governance quality, rather than ownership form, are decisive. At the international normative level, the OECD guidelines require state-owned enterprises to define public policy objectives clearly, disclose their costs and hold the board fully accountable for results [9].

The review supports several generalisations. The quality-cost trade-off is well grounded in theory, methods for measuring quality and writing it into contracts have been developed, and the primacy of governance quality over ownership form has been confirmed empirically. These strands, however, have largely developed separately: the corporate governance literature has paid little attention to quality indicators, while the quality literature has left decisions at board and shareholder level aside. Closing this gap, that is, treating quality as a component of the corporate governance system, constitutes the scientific novelty of the article.

RESEARCH METHODOLOGY

The research combined theoretical modelling, comparative analysis and statistical analysis. The information base comprised passenger transport series by mode from the National Statistics Committee of the Republic of Uzbekistan, open data on airport operations, and regulatory documents on the reform of state-owned enterprises. The statistical series were limited to 2021-2025, as this period covers the post-pandemic recovery and expansion of passenger traffic and coincides with the corporate governance reforms carried out in transport enterprises.

To apply service quality within the corporate governance system, a weighted integral index was proposed, building on the approach of Hensher and his co-authors [7]:

$$\mathrm{SQI}_t = \sum_{j=1}^{n} w_j \cdot \frac{q_{jt}}{q_j^*} \qquad (1)$$

where SQI_t is the integral service quality index in period t; q_{jt} is the actual value of quality attribute j in period t (share of on-time services, passenger satisfaction score, share of complaints resolved, etc.); q_j^* is the target value approved by the supervisory board; w_j is the attribute weight derived from passenger surveys, with the weights summing to one; n is the number of attributes. An index above one means that the enterprise has outperformed its approved quality standards; an index below one means that it has fallen short of them. The managerial advantage of the indicator is that it brings attributes measured in different units onto a single scale and can be built directly into the incentive scheme for executive managers.

To assess the economic effect of quality, the quality elasticity of demand was used. Following the logic of demand drivers set out by Paulley et al. [11], it is defined as follows:

$$\varepsilon_Q = \frac{\Delta D / D}{\Delta \mathrm{SQI} / \mathrm{SQI}} \qquad (2)$$

where ε_Q is the quality elasticity of passenger demand; D is the number of passengers carried; ΔD is its change over the period; SQI and ΔSQI are the quality index calculated by formula (1) and its change. When the elasticity is positive and greater than one, resources directed to quality are likely to pay for themselves through passenger traffic and revenue. Because the enterprises did not publish regular data on quality attributes, the elasticity was not estimated quantitatively in the article; instead, the indicator was proposed as a monitoring tool for supervisory boards. In the empirical part, passenger traffic dynamics were examined as a demand signal of quality, and relative growth ratios and average annual growth rates were calculated by the author.

ANALYSIS AND RESULTS

In the first stage of the analysis, service quality dimensions by mode of transport and the instruments for building them into the corporate governance system were systematised. The empirical findings on passenger satisfaction factors [2] and the provisions of the European Union regulation on rail passengers' rights [12] served as the comparative basis for selecting quality dimensions. The results are presented in Table 1 (Table

1).

Table 1
Service quality dimensions and corporate governance instruments by mode of transport[1]

Mode of transport	Main quality dimensions	Measured indicators	Corporate governance instruments
Rail	Punctuality, safety, carriage comfort, ease of ticket purchase	Share of services on schedule, delay compensation, satisfaction score	Board quality committee, KPIs, passenger rights charter
Air transport	Flight regularity, baggage handling, staff conduct, digital services	On-time performance, baggage claims, satisfaction score	International audit and certification, executive pay linked to KPIs
Airports	Throughput, queuing time, infrastructure convenience	Passenger traffic, queuing time, range of services	Corporatisation, international operator involvement, quality standards
Urban transport	Service frequency, reliability, information, fare	Headway, route coverage, share of electronic payments	Performance-based service contract, public reporting

Table 1 shows that, despite technological differences between modes, quality dimensions follow a common logic: each mode has dimensions of time reliability, physical comfort, information and staff conduct. The European regulation set compensation for delays, passenger information and complaint-handling deadlines as mandatory requirements, raising quality to the level of a legal guarantee [12]. The last column of the table shows three levels at which quality dimensions enter the governance system. At board level, the quality committee and the KPI system; at the level of the executive body, standards and processes; and in external relations, service contracts and public reporting tie quality to the incentive system. This structure converts quality from an unmeasured task into one that is measured and for which someone is accountable, which is the corporate solution to the multitask agency problem.

The institutional basis for introducing these instruments was created by Uzbekistan's consistent measures to reform state-owned enterprises. Presidential Decree No. PF-6096 of 27 October 2020 included Uzbekistan Railways JSC, Uzbekistan Airways JSC and Uzbekistan Airports JSC in the list of large enterprises to be transformed. It required at least 30 percent of supervisory board seats to be filled by foreign industry experts selected through international competition, financial recovery and development strategies to be drawn up with international consulting firms, and three-year business plans to be approved [15]. These requirements strengthened the professional capacity of supervisory boards and laid a firm basis for including quality indicators in strategic documents and business plans.

In the second stage, passenger traffic dynamics were assessed as a demand signal of quality. Where consumers can choose an alternative mode, sustained growth in passenger numbers on a given mode indirectly indicates that its service quality and convenience meet passenger expectations. Data of the National Statistics Committee by mode of transport [16; 17; 18; 19] are summarised in Table 2 (Table 2).

1 Source: developed by the author based on Eboli and Mazzulla [2], Hensher and Stanley [6], the European Union regulation [12] and the OECD guidelines [9].

Table 2
Passengers carried by mode of transport in Uzbekistan, million[2]

Mode of transport	2021	2022	2023	2024	2025	2025/2021, times	Average annual growth, %
All modes	6,029.7	6,245.3	6,483.7	6,933.5	7,898.1	1.31	7.0
Road transport	5,914.2	6,092.1	6,292.7	6,642.3	7,586.0	1.28	6.4
Rail transport	7.9	9.0	9.6	10.0	10.5	1.33	7.4
Metro	101.8	136.7	172.0	270.3	287.0	2.82	29.6
Air transport	3.0	4.1	5.3	6.8	9.7	3.23	34.1

Table 2 shows that passenger traffic in segments with high quality requirements grew considerably faster than in the transport system as a whole. In 2021-2025 the number of passengers carried by all modes rose 1.31-fold, while in air transport it went from 3.0 million to 9.7 million, a 3.23-fold increase with an average annual growth rate of 34.1 percent. In 2025 alone, air passenger numbers were 42.6 percent higher than in 2024. Metro ridership grew 2.82-fold to 287.0 million, and its share of all passengers rose from 1.7 percent in 2021 to 3.6 percent in 2025. Rail passenger numbers increased steadily from 7.9 million to 10.5 million, an average annual rate of 7.4 percent, outpacing the total.

Growth in air transport was also reflected in airport infrastructure indicators. Passenger throughput at Uzbekistan's airports rose from 10,409,609 in 2023 to 13,503,199 in 2024, an increase of 29.7 percent by the author's calculation; of this total, 11,022,840 passengers, or 81.6 percent, travelled on international flights [20]. Tashkent airport handled 8.71 million passengers in 2024, accounting for 64.5 percent of total traffic [20]. Such concentration of traffic makes quality attributes at the main airport, including queuing time, terminal comfort and range of services, a priority object of corporate governance oversight. In the high-speed rail segment, Afrosiyob trains have carried more than 7 million passengers since 2011, the fleet has grown from two trains to six, and daily ridership is about 3 thousand passengers [14]. Such steady demand in the premium segment shows that passengers are willing to pay higher fares for speed and comfort; in other words, quality translates directly into revenue.

Comparing the statistical results with the theoretical models reveals an important economic relationship. In the model of Hart et al., a state-owned enterprise is able to maintain quality, although its incentives to cut costs may be weak [5]. The rapid growth of passenger traffic, however, suggests that quality-oriented decisions widen the revenue base and improve cost efficiency through economies of scale. Put differently, when governance instruments are chosen well, the quality-cost balance becomes a mutually reinforcing process rather than a strict trade-off. To manage this mechanism, a model linking quality gaps to levels of corporate governance was developed (Figure 1).

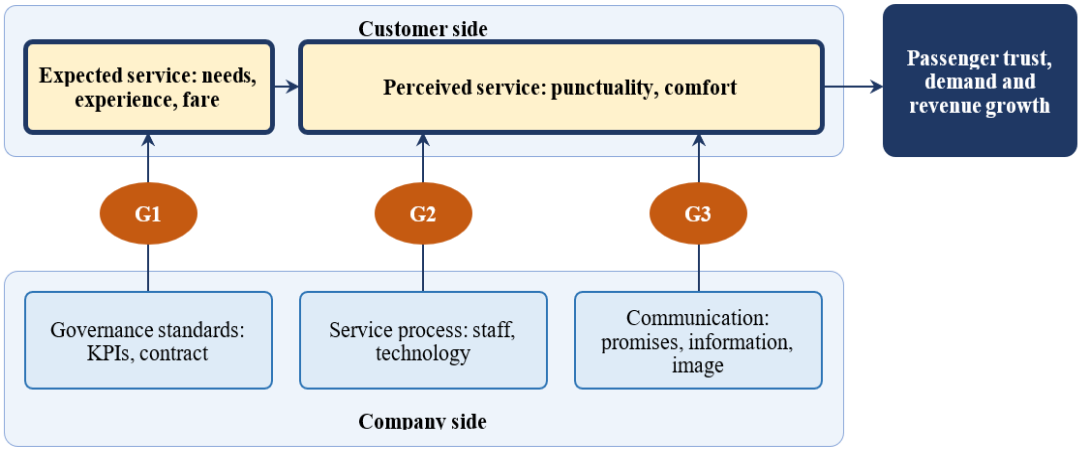


Figure 1. Model of corporate governance and service quality gaps[3]

2 Source: based on National Statistics Committee data on total passengers [16], rail [17], metro [18] and air transport [19]; road transport data are taken from the same source as the total; ratios and average annual growth rates calculated by the author.

3 Source: developed by the author based on the approaches of Grönroos [4] and Hensher and Stanley [6] and on Tables 1-2. Note: The

The model in Figure 1 represents the link between corporate governance and service quality through three gaps. The first gap (G1) arises between governance standards and passenger expectations: if the KPIs and service contract parameters approved by the supervisory board do not cover the attributes that matter to passengers, the enterprise pursues the wrong targets. The second gap (G2) forms between the service delivery process and the perceived service; it reflects how far standards are met in practice, that is, the quality of the executive body's work. The third gap (G3) concerns communication: the promises, information and image the enterprise projects affect how passengers perceive the service. The final difference between expected and perceived service is captured by the quality index in formula (1), and its change is linked to passenger traffic and revenue through formula (2). The main practical advantage of the model is that it assigns each gap to a clearly defined level of governance, distributing responsibility for quality among the supervisory board, the executive body and the communications function.

CONCLUSIONS AND SUGGESTIONS

The research provided theoretical grounds for a strong economic linkage between corporate governance and service quality in transport enterprises with state capital participation. Incomplete contract theory and the multitask agency model show that when quality remains unmeasured, incentives drift towards cost indicators; corporate governance corrects this drift by making quality an indicator that is measured, reported and rewarded. Official statistics showed that in 2021-2025 passenger numbers grew 3.23-fold in air transport, 2.82-fold on the metro and 1.33-fold on the railways, outpacing the 1.31-fold growth of the transport system as a whole. This dynamic was interpreted as a reliable demand-side signal that passengers support the reforms and infrastructure renewal carried out in state-owned transport enterprises.

On the basis of these results, the following recommendations were made.

Large state-owned transport enterprises should set up service quality committees with independent members under their supervisory boards and give them the authority to review the quality strategy and quarterly reports on the index defined by formula (1).

In the KPI system for executive managers, quality indicators such as punctuality, passenger satisfaction and complaint resolution time should carry at least one third of the weight alongside financial indicators.

For urban public transport and socially important routes, performance-based service contracts should be introduced that combine a base payment for a minimum service standard with an incentive payment for growth in passenger numbers.

Drawing on European experience, a charter of rail and air passengers' rights should be adopted, with standards for delay compensation and passenger information established as corporate obligations.

A requirement for transport enterprises to disclose data on quality attributes regularly in their annual reports would make it possible to estimate the demand elasticity in formula (2) and to measure the economic return on quality investment.

Implementing the proposed approach will further improve the effectiveness of governance reforms in state-owned transport enterprises, align the interests of the state as shareholder with those of passengers, and strengthen the competitiveness of enterprises in the transport services market. A promising direction for further research is the econometric estimation of the quality elasticity of demand using enterprise-level quality indicators.

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upper pale-blue panel represents the customer side and the lower pale-blue panel the company side; the orange ellipses G1, G2 and G3 on the vertical arrows mark the quality gaps, and the dark-navy block on the right shows the economic outcome of governance.

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