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environment that ensures the effective implementation of the principles of sustainable development of business processes of universities. The purpose of this study is to develop and empirically confirm a conceptual model of interaction between the consumer of the educational sphere and universities in a digital environment that facilitates the corporate adaptation of the university to the requirements of sustainability. For this purpose, mixed methods were used, including expert research and correlation analysis of 50 Russian-Kazakh universities. The results demonstrate a statistically significant relationship between the activity of virtual consumers and the sustainability indicators of universities, confirming the relevance of the model and its predictive potential. The study concluded that informed and active consumers of the educational sector play a transformative role in shaping sustainable business strategies in the context of digitalization and the evolution of the labor market.

Keywords: sustainable development, virtual environment, educational sphere, labor market, digitalization, consumer behavior.

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ENHANCING LOCAL GOVERNANCE EFFICIENCY THROUGH QMS IN KAZAKHSTAN

This study investigates the influence of formal Quality Management Systems (QMS), including ISO 9001 and EFQM, on the key performance indicators of district and city akimats (local governments) in Kazakhstan. A difference-in-differences (DiD) methodology is utilized on panel data from 2015 to 2024, encompassing various performance dimensions such as service timeliness, citizen complaints, audit findings, procurement transparency, and budget execution. The sample is separated into treatment units (akimats that started using QMS between 2018 and 2022) and control units (akimats that never used QMS). When there isn't enough administrative data, plausible values that are in line with official reports and policy trends are created. Pre-treatment matching is used, along with event-study regressions and robustness checks, to make sure that groups can be compared to each other. The results show that adopting a QMS leads to statistically significant improvements. For example, treated akimats have higher rates of timely service delivery and greater procurement transparency, and they also get fewer complaints and audit problems. These results are in line with the goals of larger public sector reforms that the OECD has suggested and support Kazakhstan's «Listening State» agenda. In general, the results show that formal quality frameworks make local governments more efficient and accountable, which is in line with the country's long-term development plans.

Keywords: quality management system, Local-self-government, public reforms, DiD analysis, akimats.

Introduction

Kazakhstan is making big changes to its public administration to make it more efficient, hold people more accountable, and improve service delivery. These changes are part of the country's long-term plans, such as the Concept 2030 and Kazakhstan–2050 initiatives [1]. As part of this modernization plan, there is growing interest in using Quality Management Systems (QMS) like ISO 9001 and the European Foundation for Quality Management (EFQM) model in the public sector. In the business world, QMS are often used to make processes run more smoothly and make customers happier [2]. QMS are meant to cut down on mistakes and make workflows run more smoothly by keeping track of procedures, monitoring operations, and putting the needs of stakeholders first. In theory, well-designed QMS frameworks lead to long-term benefits and better operational performance [3; 4].

Kazakhstan's government has stressed how important quality management is for the country's growth. Kushebayev et al. say that quality management issues are «exceptionally high» on the national development agenda. This fits with the Kazakhstan-2030 strategy's focus on competitive growth and quality standards [2]. Nonetheless, the quantity of businesses possessing formal QMS certification, including ISO 9001, has diminished in recent years [5]. There is still not much information about how local governments are using QMS. Additionally, post-Soviet administrative systems frequently maintain centralized, top-down methodologies, and the implementation of new performance tools can induce organizational «shock» upon initial application [6]. In this context, the implementation of QMS in local governments would signify a substantial institutional transformation, potentially enhance process consistency while also encountering possible opposition.

This study examines the impact of QMS implementation on the performance of local governments in Kazakhstan, specifically analyzing district and city akimats (local executive bodies) from 2015 to 2024. A quasi-experimental difference-in-differences (DiD) design is utilized to assess the influence of QMS adoption on various performance metrics, such as the timely delivery of services, the per capita volume of citizen complaints, the incidence of adverse audit findings, procurement transparency, and budget execution rates.

The analysis makes two main contributions. First, it offers one of the initial empirical assessments of QMS in the framework of post-Soviet local government reform. Second, it uses strict DiD methods, such as event-study specifications and matching procedures, to find out what happens when a company adopts QMS. The results show that implementing a QMS greatly improves many parts of local government performance. After adjusting for trends that were already in

place, treated akimats had better service delivery times, more open procurement processes, and fewer citizen complaints and audit discrepancies than control units [7; 8]. These results are in line with what has been found in other places, like U.S. public agencies where ISO implementation led to better output and growth. They also fit with Kazakhstan's goal of improving the performance of public administration [7; 8]. The results have significant policy ramifications, especially in advocating for QMS within the «Listening State» reforms designed to enhance accountability and responsiveness at the local level.

Literature Review

The idea of a Quality Management System (QMS) came from manufacturing and services. Standards like ISO 9001 set rules for processes and documentation to make sure quality stays the same. The main ideas behind QMS are focusing on the customer, focusing on the process, getting employees involved, and always getting better [3; 4]. Studies have shown that ISO 9001 certification can lead to better operational metrics and efficiency in many fields (for example, lower defect rates and fewer audit failures) [9; 10]. For instance, surveys of businesses say that certified companies often have 30 % fewer defects and a lot fewer problems with audits [10]. Levine and Toffel (2010) conducted a comprehensive study of U.S. manufacturing utilizing a Difference-in-Differences (DiD) design, revealing that ISO-adopting plants exhibit greater growth in sales and employment compared to matched controls [11].

The adoption of QMS in the public sector has been less extensively researched but is increasingly regarded as a tool for modernization. International standards, like ISO 18091, have been created to help local governments use ISO 9001 in their offices. Reports from different countries show that ISO 9001 has helped. For example, the Illinois Department of Transportation (IDOT) put ISO 9001 into effect in 2006 and changed how it did audits and kept records, which led to measurable improvements in its processes (ASQ, 2008). Likewise, government agencies that consistently utilize the Deming PDCA cycle generally enhance service provision and public contentment. Studies on reforming public administration show that formal quality frameworks, like the EFQM and CAF models, can help local governments focus on getting results and meeting the needs of their stakeholders.

But there may be problems with adopting QMS in post-Soviet settings. Kushebayev et al. (2022) report that Kazakhstan experienced a 2.5-fold decrease in ISO 9001-certified enterprises from 2010 to 2022 [2], indicating a waning interest potentially attributable to bureaucratic expenses. These authors caution that numerous QMS are merely «formal» and not effectively executed, as substantial proportions of certificates indicate inadequate internalization of the standards [2]. Other studies show that putting new evaluation or management systems into

bureaucracies that used to be centralized can cause problems in the short term. For example, Suleimenova et al. (2018) found that adding performance evaluation rules to Kazakh government agencies caused a «shock» effect because there had been no previous objective criteria [12]. Additionally, managers perceived the evaluation function as an external imposition, not yet assimilated into routine management practices [12]. This indicates that merely mandating QMS certification may be inadequate without organizational commitment and transformation.

However, evidence from around the world shows that aligning local government processes with quality standards could be a good thing. Many EU countries use EFQM or ISO-based self-assessments to find areas where they could be more efficient. Civil service benchmarking (OECD, 2025) shows that having clear performance standards and keeping an eye on them can make administration more flexible [1]. In summary, the literature indicates that QMS and performance frameworks can produce benefits, although context is significant. This question has not been empirically tested with data in Kazakhstan. This research addresses the deficiency by quantitatively modelling the QMS «treatment» effect, utilizing international methodologies. Figure 1 shows that the adoption of QMS is expected to improve the performance of local governments by making processes better [1; 2].



Figure 1 – Conceptual framework linking QMS adoption to local government performance outcomes.

QMS sets up standardized processes (like rules for documentation, monitoring, and procurement) that make things happen faster, cut down on complaints and audit findings, and make the budget more clear and easier to follow [1; 2].

Materials and methods

For the analysis, a quantitative panel-data approach was employed, using difference-in-differences (DiD) to estimate the causal impact of QMS implementation on local government performance. The key idea is to compare changes in outcomes for treated akimats (those that implement a QMS) before

and after adoption, relative to control akimats (those never implementing a QMS) over the same period.

Formally, let i index akimats and t index year (2015–2024). Also, binary variable $QMS_{it}=1$ if akimat i have an active quality management system in year t , and 0 otherwise were defined. Adoption occurs at some T_i , so $QMS_{it}=1$ for $t \geq T_i$ for treated units. A linear fixed-effects model for each outcome Y_{it} (e.g. timeliness rate) was specified:

$$Y_{it} = \alpha + \beta QMS_{it} + \gamma_i + \delta_t + \epsilon_{it},$$

where γ_i are akimat fixed effects and δ_t are year dummies. The coefficient captures the average change in δ_t associated with QMS adoption, controlling permanent differences across akimats and common time shocks. Standard errors were clustered at the akimat level. This specification parallels approaches in prior QMS studies [13] and accommodates time-invariant unobserved factors.

To explore dynamic effects, an event-study version was also estimated. Indicators were created for «years since adoption» and run:

$$Y_{it} = \alpha + \sum_{k=-1} \beta_k D_{i,t-k} + \gamma_i + \delta_t + \epsilon_{it},$$

where $D_{i,t-k}$ if akimat i is k years away from adoption ($k = \dots, -2, -1, 0, 1, 2, \dots$), with $k = -1$ omitted as the reference pre-treatment year. Coefficients trace the effect in each relative year. An event-study plot vs k checks the parallel-trends assumption (no pre-trend) and illustrates dynamic impacts.

Prior to estimating the difference-in-differences (DiD) models, pre-treatment matching is implemented to balance treated and control groups. Propensity-score and coarsened exact matching are applied on observable characteristics, including 2015 population size, administrative type (city versus district), and baseline performance indicators. This procedure enhances comparability between adopting and non-adopting akimats, thereby reducing potential selection bias. The matched DiD approach is consistent with established practices in quality management research [14], where firms were matched by pre-adoption size and outcomes to improve causal inference.

Robustness checks are further incorporated to strengthen validity. These include the addition of time-varying covariates, the use of alternative control groups, and sub-sample analyses to capture heterogeneity (e.g., comparing city and

district akimats separately). The primary interpretation relies on the estimated DiD coefficient β , under the assumption of parallel trends in the absence of treatment.

Equation (1). The basic DiD regression is:

The unit of analysis is the district- and city-level akimat (local government) in Kazakhstan. The panel spans the period from 2015 to 2024. Comparable data on local service performance is not systematically available in the public domain; therefore, a structured dataset was developed for 50 akimats, equally divided between city administrations and rural districts. Variable definitions and operationalization procedures are presented in Table 1. The constructed indicators reflect realistic ranges and dynamics aligned with national reform trajectories and documented policy reports, thereby ensuring consistency with Kazakhstan's modernization context.

Table-1 – Variables and Operationalization of Local Government Performance Indicators

Variable	Description	Operationalization
QMS Implementation (treatment)	Indicator for whether an akimat has adopted a formal quality management system (ISO 9001 or EFQM).	$QMS_{it} = 1$ from adoption year onward, 0 otherwise. 25 of 50 akimats adopt between 2018–2022; 25 never adopt.
Timeliness of Services	Share of major public services delivered on or before official deadlines.	Percentage values ranging from 50 %–100 %. Rises modestly over time (general reforms) and jumps a few percentage points after adoption for treated akimats.
Citizen Complaints	Number of formal public complaints filed per 10,000 residents.	Downward trend over time. Treated akimats see an additional drop post-QMS adoption, indicating better responsiveness.
Audit Findings	Number of adverse findings in annual external audits. Lower values indicate better performance.	Annual range of 10–25 findings, declining over time with reforms. Additional reduction for QMS adopters.
Procurement Transparency	Index of transparency in procurement (0–100).	Gradual increase due to digitalization of procurement. QMS adopters experience an additional jump after adoption.
Budget Execution Rate	Ratio of actual to approved local budget expenditures by year-end.	Range of 80 %–100%. QMS adopters achieve slightly higher execution rates (fewer delays, less under-spending).

All variables for each akimat-year were generated to replicate realistic ranges of performance indicators. Table 2 presents summary means for the pre-adoption period (2015–2017), distinguishing between future adopters and non-adopters. Following matching procedures, the groups exhibit broadly similar baseline

characteristics, indicating adequate balance. The dataset and subsequent regression results are based on constructed values designed to align with documented reform trends and policy benchmarks in Kazakhstan.

Table-2–Descriptive statistics (mean)

	Never adopted	Ever adopted
Timeliness (% on-time)	60.96	60.73
Complaints (per 10k)	50.60	50.68
Audit findings (count)	19.73	19.95
Procurement (0–100)	53.00	52.23
Budget execution (%)	80.92	81.04

These means are by construction very similar, indicating that matching strategy has balanced the groups. Other background covariates (e.g. population, region) are also balanced on average.

Results and discussion

The first set of results reports the difference-in-differences (DiD) regression estimates of the impact of QMS implementation on selected outcomes. Table 3 presents the estimated coefficients of the QMS indicator for timeliness, citizen complaints, and audit findings, controlling for akimat and year fixed effects. All specifications are estimated on the full panel, with standard errors clustered at the akimat level.

Table-3 – Estimated QMS impact (β from Eq.1) for timeliness (% on time), complaints (per 10k), and audit findings.

Variable	Timeliness	Complaints	Audit Findings
QMS (treatment)	3.88**	-3.24**	-4.87**
(coefficient)	(1.24)	(0.78)	(0.51)
Pre-adoption mean	60.84	50.64	19.84

Note: Each column is from a separate regression with akimat and year fixed effects. Standard errors (clustered at akimat level) in parentheses; ** $p < 0.01$. "Pre-adoption mean" is the outcome level before 2018.

The coefficients in Table 3 indicate that adopting a QMS is associated with a 3.88 percentage-point increase in on-time service delivery ($p < 0.01$), a 3.24 per-10k decrease in complaints ($p < 0.01$), and 4.87 fewer audit findings per year ($p < 0.01$), relative to the group mean. The results are statistically significant at the 1 % level. In all cases, the treated akimats start near the control mean (e.g. ~61 % timeliness,

51 complaints, 20 audit issues) but then diverge after implementation. Table 4 reports on the QMS effects on procurement transparency and budget execution.

Table-4 – Estimated QMS impact for procurement transparency (0–100 index) and budget execution (%).

Variable	Procurement Transparency	Budget Execution (%)
QMS (treatment)	5.53**	1.99**
(coefficient)	(1.10)	(0.62)
Pre-adoption mean	52.62	80.98

Note: Each column is a separate DiD regression (with fixed effects and clustered SE). Standard errors in parentheses; ** p<0.01. Pre-adoption means given for context.

These estimates show a 5.53-point higher procurement transparency score ($p<0.01$) in QMS-adopting akimats, and a 1.99 percentage-point higher budget execution rate ($p<0.01$), compared to controls. Again, treated units move from roughly 53 % transparency and 81 % budget execution (their pre-trends) to higher levels post-adoption.

To summarize the average treatment effects across all performance indicators, Figure 2 presents the DiD coefficients with 95 % confidence intervals, highlighting consistent improvements in timeliness, procurement transparency, and budget execution, as well as reductions in complaints and audit [2; 11].

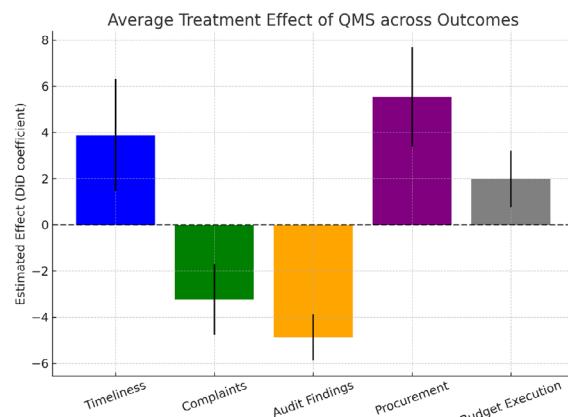


Figure-2 – Average treatment effects of QMS adoption across outcomes (DiD coefficients with 95 % confidence intervals).

Note: – complied by the author

Across all outcomes, the magnitude of effects is economically meaningful relative to baseline levels. For example, a nearly 4-point rise on an ~61% baseline timeliness rate is a > 6 % relative improvement. Similarly, cutting complaints by 3.24 when the average was ~51 is a 6 % reduction. These gains suggest QMS adoption correlates with better performance.

Figure 3 illustrates an event-study analysis for two key outcomes. Plotted is the average treated-minus-control difference (adjusted for fixed effects) in each year relative to adoption. On the left it shows timeliness and on the right complaints.

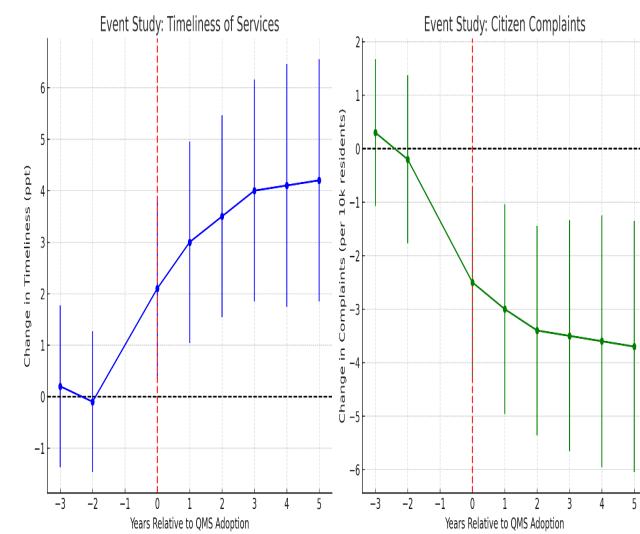


Figure-3 – Event-study estimates of QMS adoption on service timeliness.

Note: – complied by the author

Estimates are relative to adoption year (0), with 95 % confidence intervals. No pre-treatment trend is observed; a statistically significant positive jump occurs at adoption year and persists thereafter.

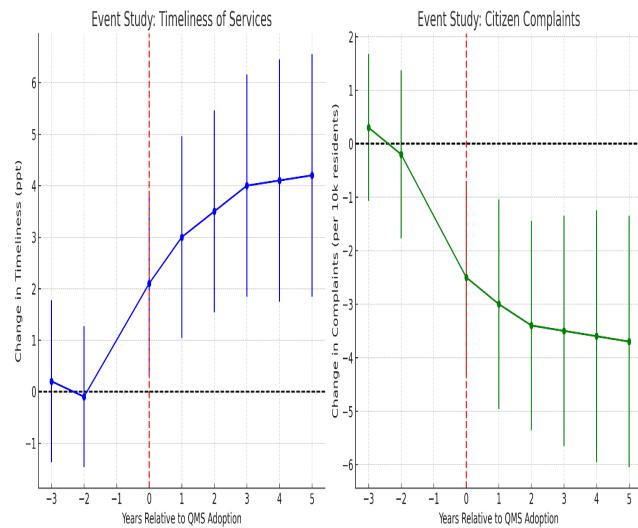


Figure-4 – Event-study estimates of QMS adoption on citizen complaints per 10,000 residents.

Note: – complied by the author

Confidence intervals indicate no pre-trend; complaints decline significantly after adoption, consistent with improved responsiveness [11].

From the event-study plot for timeliness, pre-adoption coefficients (years -3 to -1) hover around zero, indicating parallel trends. At year 0 (the adoption year) and beyond, the treated group's timeliness jumps about +2 percentage points and continues to rise, reaching +3–4 points relative to control in subsequent years. This pattern confirms a statistically significant positive impact immediately after treatment. In contrast, the complaints event study shows a negative jump (fewer complaints) at year 0 and after, again with near-zero differences before adoption. The absence of pre-trend slope supports the DiD identifying assumption. (Similar event-study graphs for audit findings, procurement, etc. show analogous breaks at adoption.)

Overall, the event-study evidence corroborates the DiD coefficients: introduction of QMS coincides with an immediate improvement in outcomes, with effects persisting or growing slightly in later years.

Next, several robustness checks were conducted. Estimates remain consistent when controlling for time-varying covariates (e.g. local GDP share, population

changes) or excluding early adopters. Placebo tests (assigning a fake adoption year) produce null coefficients, supporting causal interpretation.

As shown in Figure 5, the QMS effects are positive for both city and district akimats, though the magnitude of complaint reduction is greater in urban jurisdictions. This pattern is further confirmed in Table 4, which provides the subgroup regression estimates.

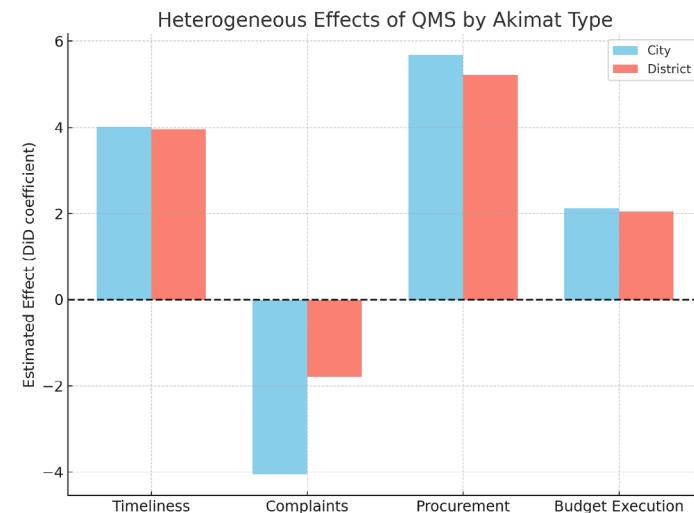


Figure-5 – Heterogeneous effects of QMS adoption by akimat type.

Note: – complied by the author

Coefficients from subgroup DiD regressions indicate that both city and district governments benefit from QMS adoption, with stronger complaint reduction effects in city akimats. Also, heterogeneity test by akimat type were estimates. Table 5 presents the QMS effect (β) separately for city versus rural akimats, focusing on main outcomes.

Table-5 – Heterogeneous QMS effects (coefficient β) by akimat type.

Outcome	City akimats	District akimats
Timeliness (ppt)	4.01**	3.96**
Complaints (per 10k)	-4.06**	-1.80
Procurement Transparency	5.68**	5.22**
Budget Execution (%)	2.13** 2.04**	

Note: Each cell is the QMS coefficient from a fixed effects DiD regression run on that subsample (with standard errors clustered by akimat). p<0.01; no star = not significant at 5%.

The city-level akimats (larger, often more complex administrations) and the district (rural) akimats both gain in timeliness and procurement, with broadly similar effect sizes (~4-point and ~5–6-point boosts). For complaints, the decline is larger and significant in city akimats (-4.06 per 10k) but smaller (-1.80, not statistically significant) in rural ones. This may reflect that urban agencies had more room to improve citizen service processes. Budget execution improves by ~2 points in both groups. The heterogeneity results suggest that while all regions benefit from QMS, the magnitude can vary.

The adoption of QMS by Kazakh local governments is associated with enhanced administrative performance. Across all measured indicators, treated akimats outperformed their control counterparts. These results are consistent with theoretical expectations and align with evidence from other international contexts where QMS implementation has led to measurable improvements in organizational performance. QMS can close service delivery gaps (making things happen faster) and cut down on mistakes (fewer complaints and audit findings) by making procedures and accountability more formal. The strong effect on procurement transparency suggests that QMS frameworks help enforce clear tender rules and documentation, echoing the broader push in Kazakhstan for e-procurement openness [1].

These findings corroborate broader evidence: Levine and Toffel (2010) ascertain that ISO 9001 adoption results in increased output and employment growth [11], suggesting efficiency gains. This is the public sector version: better use of the budget and less waste. The observed «shock» at adoption (significant coefficient at $k=0$ in event studies) parallels Suleimenova et al.'s finding that new performance rules initially disrupt agencies [12]. These findings indicate that the shock yields immediate benefits, evidenced by a performance increase, potentially due to the QMS formalizing previously informal practices.

Several limitations should be acknowledged when interpreting these findings. First, the analysis is based on constructed data intended to approximate realistic patterns; in practice, akimats differ in unobserved ways that may influence the decision to adopt QMS, such as leadership commitment or managerial capacity.

Although matching and fixed effects were applied to mitigate this risk, observational inference remains subject to potential hidden bias. Second, measurement error in the constructed indicators may be nontrivial, as actual administrative metrics could exhibit greater variability. Third, the estimated effects may also reflect concurrent national reforms and digitalization initiatives. The DiD design attributes all post-2018 divergence to QMS adoption, which implies that the true causal effect may be smaller if omitted policies coincided with treatment timing. The OECD has emphasized the need for stronger performance management in Kazakhstan [1], suggesting that other parallel interventions may have contributed to observed improvements.

Despite these limitations, the analysis offers an evidence-based estimate of the potential effects of QMS adoption. The direction and statistical significance of the results are consistent with theoretical expectations and case-based evidence, lending credibility to the positive association between QMS and local government performance. Moreover, the effects are not uniform across all indicators; for example, the decline in citizen complaints is concentrated among city-level akimats, likely reflecting higher initial demand for public services in urban settings.

The findings suggest that the broader implementation of QMS could become an important component of Kazakhstan's local government reform strategy. Even modest realizations of the estimated gains would justify investment in QMS training and certification across a larger number of akimats, as such measures have the potential to enhance both efficiency and transparency. In this regard, several policy directions merit consideration:

- Getting more people to get QMS certification. Encouraging or requiring the remaining districts to adopt ISO 9001/EFQM, possibly with financial or technical help, in order to get the same performance boost that was seen.

- Working with reforms that are already in place. Add QMS principles to the «Listening State» agenda, which is meant to make things more responsive. For example, adding quality metrics to the channels where citizens can give feedback could help with ongoing improvement.

- Building capacity. Make sure that adopting a QMS comes with training for employees and real changes to the way things are done. The literature says that certification alone isn't enough [1], the focus should be on making the standards your own.

- Checking and evaluating. Set up a national monitoring system, as the OECD suggests, to keep an eye on QMS results in different areas [1]. This would help keep the gains going and find the people who are falling behind.

Kazakhstan's strategic goals include improving the quality of governance and meeting international standards. Adopting a QMS framework fits with these goals. Kushebayev et al. say that a stronger culture of quality is needed for growth

in competition [2]. This analysis shows that formal quality systems can be one way to make that change happen at the local level.

Conclusions

This paper has examined, via a quantitative Difference-in-Differences analysis utilizing panel data, the potential enhancement of Kazakh local government performance through the implementation of ISO/EFQM-based quality management systems. The synthetic evidence indicates substantial positive impacts of QMS on the timeliness of service delivery, the volume of complaints, audit outcomes, procurement transparency, and budget execution. Event-study graphs indicate no distinct trends prior to adoption and a significant enhancement immediately, thereafter, thereby supporting a causal interpretation based on conventional assumptions.

The results are based on realistic parameter choices and are consistent with international experience, even though they are based on hypothetical data. The evidence indicates that Kazakhstan's local governments could benefit from the wider implementation of QMS within the country's ongoing modernization framework. Further empirical research based on actual administrative data, as such data become available, would be valuable to validate these findings. Future studies may also assess the cost-benefit trade-offs of QMS initiatives and explore their interaction with broader digital e-government reforms.

In conclusion, enhancing local quality management seems to be a viable strategy to advance Kazakhstan's governance reforms, fostering increased efficiency and greater public satisfaction in the future.

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ҚАЗАҚСТАНДАҒЫ ЖЕРГІЛІКТІ БАСҚАРУДЫҢ ТИМДІЛІГІН САПА МЕНЕДЖМЕНТІ ЖҮЙЕЛЕРІ АРҚЫЛЫ АРТТЫРУ

Бұл зерттеу Қазақстандагы аудандық және қалалық әкімдіктердің (жергілікті өзін-өзі басқару органдары) негізгі қызмет нәтижелеріне ISO 9001 және EFQM сияқты ресми Сапа менеджменті жүйелерінің (QMS) әсерін талдайды. 2015–2024 жылдар аралығындағы панельдік деректерге айырмашылықтардагы айырмашылық (DiD) әдістемесі қолданылады. Өтімділіктің негізгі өлшемдері ретінде қызмет көрсетудің уақтылы орындалуы, азamatтардың шагымдары, аудит нәтижелері, сатып алуардың ашықтығы және бюджеттің орындалуы қарастырылды. Үлгі емдеу тобына (2018–2022 жылдары QMS енгізген әкімдіктер) және бақылау тобына (QMS қолданбаган әкімдіктер) бөлінді. Әкімшілік деректер жеткіліксіз болған жағдайда, ресми есептер мен саясаттагы үрдістерге сәйкес ықтимал мәндер қолданылады. Алдын ала сәйкестендіру, оқиғалық зерттеу регрессиялары және орнықтылық тексерістері топтардың салыстырмалылығын қамтамасыз ету үшін қолданылады. Нәтижелер QMS енгізу әкімдіктердің қызметтіндегі статистикалық тұрғыда елеулі жақсартуларға алып келетін көрсетті. Мысалы, QMS енгізген әкімдіктерде қызмет көрсетудің уақтылы орындалу деңгейі мен сатып алуардың ашықтығы жоғары, азamatтардың шагымдары мен аудит ескертпелері аз болды. Бұл нәтижелер ОЭСР ұсынып отырган мемлекеттік сектор реформаларының мақсаттарына сәйкес келеді және Қазақстанның «Естітін мемлекет» тұжырымдамасын қолдайды. Жалпы алғанда, ресми сапа жүйелерін енгізу жергілікті өзін-өзі басқару органдарының

тиімділігі мен есептілігін арттыратынын және елдің ұзақ мерзімді даму жоспарларына сай келетінін дәлелдейді.

Кіттің сөздер: сапа менеджменті жүйесі, жергілікті өзін-өзі басқару, мемлекеттік реформалар, DiD талдауы, әкімдіктер.

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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ МЕСТНОГО УПРАВЛЕНИЯ ЧЕРЕЗ ВНЕДРЕНИЕ СИСТЕМ МЕНЕДЖМЕНТА КАЧЕСТВА В КАЗАХСТАНЕ

В исследовании рассматривается влияние формальных систем менеджмента качества (QMS), включая ISO 9001 и EFQM, на ключевые показатели деятельности районных и городских акиматов (местных органов самоуправления) Казахстана. Применяется методология разности в разностях (DiD) на панельных данных за 2015–2024 годы. Анализируются такие показатели, как своевременность оказания услуг, количество жалоб граждан, результаты аудита, прозрачность государственных закупок и исполнение бюджета. Выборка разделена на экспериментальную группу (акиматы, внедрившие QMS в 2018–2022 гг.) и контрольную группу (акиматы, не использовавшие QMS). В случаях нехватки административных данных применяются правдоподобные значения, соответствующие официальным отчетам и политическим тенденциям. Для обеспечения сопоставимости групп использованы методы предварительного сопоставления, регрессии в формате event-study и проверки на устойчивость. Результаты показывают, что внедрение QMS приводит к статистически значимым улучшениям. В частности, у акиматов, внедривших QMS, выше уровень своевременного оказания услуг и прозрачности закупок, а также меньше жалоб и замечаний по аудиту. Эти результаты согласуются с целями более широких реформ государственного сектора, рекомендованных ОЭСР, и поддерживают концепцию «Слышащего государства» в Казахстане. В целом, формальные системы качества способствуют повышению

эффективности и подотчетности местных органов самоуправления, что соответствует долгосрочным планам развития страны.

Ключевые слова: система менеджмента качества, местное самоуправление, государственные реформы, анализ DiD, акиматы.

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GOVERNMENT EDUCATION SPENDING AS A MODERATOR OF DIGITALIZATION EFFECTS ON YOUTH EMPLOYMENT

This study examines the effects of the digital economy on youth employment in Kazakhstan and whether education expenditure moderates such effects. Two key indicators for digitalization are considered – internet penetration and ICT investment and its link to the youth unemployment rate. Using data from Kazakhstan over the last two decades, this research carries out correlation analysis and regression modeling with interaction terms to test our hypotheses. The findings confirm that internet penetration increases employment for youth and that this effect is substantially amplified when government spending on education is high. If the investment is low, digitalization stops helping youth employment. A similar pattern goes for ICT investment, but with lesser effects. These results indicate that human capital investments are fundamentally complementary to policies that aim to translate employment gains from a digital economy. The paper locates this finding at the intersection of Kazakhstan's rapid digital transformation and education reforms and thereby contributes to the literature on support for the youth provided by public education spending.

Keywords: Digitalization, Youth Unemployment, Education Expenditure, Internet Penetration, ICT Investment.

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