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# THE IMPACT OF KPIS ON OPERATIONAL EFFICIENCY AND COMPETITIVE ADVANTAGE IN TRADING ENTERPRISES

Abstract. This study investigates the impact of key performance indicators on operational efficiency and competitive advantage in trading enterprises, using secondary data and econometric modeling. Analyzing data from 50 firms across seven countries over a five-year period (2019-2023), the research employs a panel data regression model to assess how various KPIs influence operational outcomes and market positioning. The results reveal that KPIs related to productivity, cost management, and quality control significantly enhance operational efficiency and competitive advantage. Additionally, firm size and market conditions are found to moderate these relationships, highlighting the importance of contextual factors in KPI effectiveness. The results of the study show that KPIs are effective tools for optimizing operational processes. Firms with high KPIs achieve a better competitive position in the market, reinforcing the notion that well-managed KPIs significantly contribute to a firm's ability to outperform competitors. This study contributes to the academic understanding of KPI impact by confirming established theories and introducing new insights into the role of external factors. Practically, the findings offer actionable recommendations for trading enterprises to optimize their KPI frameworks, suggesting that tailored KPI strategies can lead to substantial improvements in performance and market success. The study underscores the critical role of KPIs as strategic tools for enhancing firm performance and maintaining a competitive edge in the global market. The research's limitations include the relatively small sample size and limited time frame, which suggest the need for further studies to validate and extend these findings. Trading companies must constantly improve their KPI strategies to adapt to changing conditions and maximize their benefits, ensuring they remain leaders in their industries.

**Keywords:** Competitive Advantage, Firm Performance, Key Performance Indicators, Operational Efficiency, Trading Enterprises.

JEL Classification: M11; M21; D22; L25.

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**Introduction.** Trading enterprises play a pivotal role in the global market by acting as intermediaries between manufacturers and consumers, facilitating the movement of

goods and services across various channels (Kolos, 2018). These enterprises, which can range from wholesale distributors to retail chains, are essential in ensuring that products

reach their intended markets efficiently and effectively. Their typical operations involve sourcing products from suppliers, managing inventory, and coordinating logistics to meet customer demands. Given the highly competitive nature of the trading industry, operational efficiency is crucial for sustaining profitability and maintaining a competitive edge. Efficient operations enable trading enterprises to minimize costs, optimize inventory management, and enhance supply chain processes, which directly impacts their ability to offer competitive pricing and reliable service to customers. In an industry where margins can be thin and market conditions volatile, the ability to streamline operations and respond swiftly to changes can distinguish leading enterprises from their competitors. Consequently, achieving high levels of operational efficiency not only supports day-to-day functions but also contributes significantly to long-term success and market position (Albaz et al., 2020).

Key performance indicators (KPIs) are quantifiable metrics used to evaluate and track the performance of various aspects of an organization's operations. These indicators provide valuable insights into how effectively an organization is achieving its strategic and operational goals. KPIs can encompass a range of metrics, such as sales growth, inventory turnover, and customer satisfaction, tailored to the specific objectives and operations of the enterprise. By setting and monitoring KPIs, trading enterprises can gain a clear understanding of their operational efficiency and identify areas that require improvement (Battaglia, Neirotti, & Paolucci, 2018). For example, KPIs related to inventory management can reveal how well an enterprise is managing stock levels and minimizing holding costs, while customer service KPIs can indicate the effectiveness of order fulfillment and client relations. The role of KPIs extends beyond mere measurement; they serve as a catalyst for enhancing operational efficiency by providing actionable data that drives decision-making and strategic planning. Through continuous tracking and analysis of KPIs, trading enterprises can optimize their processes, streamline operations, and ultimately improve their overall performance and competitiveness in the market.

Unresolved parts of the common problem. The research problem addresses a notable gap in the existing literature concerning the impact of KPIs on trading enterprises, particularly their operational efficiency and competitive advantage. While KPIs are widely acknowledged as crucial for performance

measurement, there is a lack of comprehensive studies exploring how specific KPIs affect various aspects of trading operations and competitive positioning. This under-explored area presents an opportunity to delve deeper into the effectiveness of different KPIs and their role in enhancing operational efficiency and driving competitive advantage within the trading sector.

The purpose of the article. The primary objective of this study is to analyze the impact of KPIs on both operational efficiency and competitive advantage, providing a detailed examination of how these indicators influence overall performance. Secondary objectives include investigating specific KPIs utilized by trading enterprises, assessing their effectiveness in improving operational processes, and exploring their contribution to competitive positioning in the market.

The object of the research is operational efficiency and competitive advantages of trading enterprises. The subject of the research is the comprehensive analysis of impact of KPIs on operational efficiency and competitive advantages in trading enterprises.

The significance of this study lies in its potential to contribute to the theoretical understanding of KPI effectiveness in trading enterprises, offering new insights into performance measurement and management. Practically, the findings provide valuable trading enterprises guidance for managers, enabling them to make informed decisions about KPI implementation and optimization. This could lead to enhanced operational strategies, improved efficiency, and a stronger competitive position in the marketplace.

**Literature Review.** The impact of KPIs on operational efficiency and competitive advantage in trading enterprises has garnered increasing attention in academic and practical research. This literature review synthesizes key findings from existing studies to contextualize and support the research focus of the current study.

KPIs are essential tools for evaluating performance and guiding strategic decisions in small and medium-sized enterprises (SMEs). A. Albaz et al. (2020) emphasize the role of KPIs in unlocking growth for SMEs by providing actionable insights into performance metrics. Their research underscores the significance of KPI utilization in enhancing operational efficiency, which is crucial for sustaining business growth. Similarly, Hung T. (2018) explores the perception of KPIs among Vietnamese SMEs, highlighting how management's understanding and application

of KPIs can drive better performance and competitive positioning. This aligns with Gomolka's C. (2020) practical perspective on KPIs, which identifies five key metrics critical for measuring small business growth and operational success.

Research on the relationship between R&D investments and business performance also offers valuable insights. D. Battaglia, P. Neirotti and E. Paolucci (2018) discuss the impact of R&D and export activities on SME growth from a domain ambidexterity perspective, illustrating how innovation and market expansion are linked to improved operational outcomes. O. Carboni and G. Medda (2019) further elaborate on this by analyzing the effects of R&D spending on tangible investments, showing that increased R&D can enhance a firm's operational efficiency and competitive edge. This relationship is crucial for understanding how KPIs related to innovation and investment can drive performance improvements.

Quality management practices are another key area of interest. A. Chiarini et al. (2020) investigate quality management and internal auditing in SMEs, revealing that effective quality management practices significantly improve performance. This supports the notion that KPIs related to quality control and process improvement are vital for enhancing operational efficiency.

S. Gherghina et al. (2020) argue that SMEs drive economic growth through strategic and innovation. investments Their study underscores the importance of aligning KPI strategies with investment and innovation goals to maximize operational efficiency and competitive advantage. To analyze these relationships, P. Ghauri, K. Gronhaug and R. Strange (2020) provide foundational insights into research methods in business studies, offering guidance on employing econometric models to assess the impact of KPIs on performance metrics. Their methodological framework supports the current study's approach of using secondary data and panel data regression models.

S. Jituri, B. Fleck and R. Ahmad (2018) present a methodology for achieving KPIs in the context of Enterprise Resource Planning (ERP) systems in SMEs. Their study highlights the critical role of KPIs in successful ERP implementations, illustrating how specific KPIs can drive operational improvements and ensure alignment with organizational goals. This insight is directly relevant to understanding how KPI frameworks can be optimized to improve operational efficiency in trading enterprises. A. Koldovskyi (2023)

investigates the effects of innovation resource management and bank competition output in Ukraine. This research underscores the importance of innovation and competitive dynamics in shaping firm performance. By examining the impact of resource management on performance metrics, A. Koldovskyi's findings provide a foundation for analyzing how KPIs related to innovation can influence competitive advantage and operational efficiency in different market conditions.

I. Kolos (2018) explores the formation of KPI systems for lean management, emphasizing the importance of tailored KPIs in enhancing operational efficiency. The study's focus on lean management practices aligns with the current research's interest in understanding how different KPI systems impact efficiency and competitiveness. This work supports the notion that effective KPI systems are crucial for optimizing processes and achieving strategic goals. D. Kretov et al. (2023) discuss the development and management of interbank competition in corporate lending markets. Their research on competition dynamics and management strategies provides valuable insights into how competitive pressures can influence the effectiveness of KPIs. This is pertinent to understanding how trading enterprises can leverage KPIs to navigate competitive environments and enhance their market positioning.

Y. Leonov et al. (2024) examine the effectiveness of anti-corruption management mechanisms. While focused on corruption, the study highlights the broader implications of performance management systems. The effectiveness of management mechanisms in ensuring compliance and performance improvement underscores the importance of well-defined KPIs in achieving operational and strategic objectives. J. Llivisaca et al. (2020) explore KPIs for supply chain management in SMEs based on the Balanced Scorecard approach. Their study reveals how KPIs can be utilized to optimize supply chain operations, which is relevant for understanding how operational KPIs can enhance efficiency and competitive advantage in trading enterprises. This research provides a practical perspective on implementing KPI frameworks to manage and improve supply chain performance.

C. Louw and C. Nieuwenhuizen (2020) discuss digitalization strategies for SMEs, emphasizing the cost versus skill approach for website development. Their research highlights the role of digital tools and technologies in improving SME performance,

aligning with the current study's focus on how digital KPIs can enhance operational efficiency and competitiveness. I. Lukonga (2020) investigates the use of digital technologies to promote SMEs and inclusive growth in various regions. The study provides insights into how digital technologies can impact performance metrics, supporting the view that KPIs related to digitalization are crucial for improving operational efficiency and achieving competitive advantage.

V. Mazur et al. (2023) explore the development of a rational model for managing structure of construction capital companies. Their research emphasizes the importance of effective capital management in achieving financial stability and operational efficiency. This study's insights capital structure management contribute to understanding how financial KPIs can be applied to optimize firm performance in trading enterprises. O. Prokopenko et al. (2024) investigate innovative models of green entrepreneurship and their social impact on the sustainable development of local economies. This research highlights how innovation-driven KPIs can support sustainable practices and contribute to competitive advantage. The focus on green entrepreneurship underscores the role of KPIs in aligning business practices with broader sustainability goals, which is pertinent for trading enterprises looking to enhance their market position through sustainable practices.

V. Scuotto et al. (2020) examine the effect of digital transformation on ambidextrous innovation orientation in fashion SMEs. Their study demonstrates how digital tools and KPIs influence innovation and competitive positioning. This research is relevant for understanding how digital KPIs can drive operational efficiency and competitive advantage, particularly in sectors undergoing significant technological change. A. Tieber, D. Manolache and M. Gheorghe (2019) focus on the development of KPI modules tailored for SMEs in the production industry. Their work provides practical insights into how KPI frameworks can be designed to enhance performance in specific industrial contexts. This study contributes to the current research by offering practical approaches to KPI implementation, relevant for trading enterprises seeking to optimize operational processes. A. Vaio and L. Varriale (2017) explore the use of KPIs in monitoring and measuring decision-making processes at Italian cruise terminals. Their research highlights the role of KPIs in improving decision-making efficiency and operational effectiveness. This study illustrates the practical application of KPIs in diverse settings, providing valuable insights into how similar approaches can be adopted by trading enterprises to enhance their decision-making processes and competitive advantage.

In summary, the reviewed literature provides a comprehensive foundation for understanding the role of KPIs in enhancing operational efficiency and competitive advantage. By integrating insights from KPI utilization, R&D investments, quality management, and investment strategies, this research aims to contribute to a deeper understanding of how KPIs can drive performance improvements in trading enterprises.

**Research Methodology.** This research employs secondary data analysis and

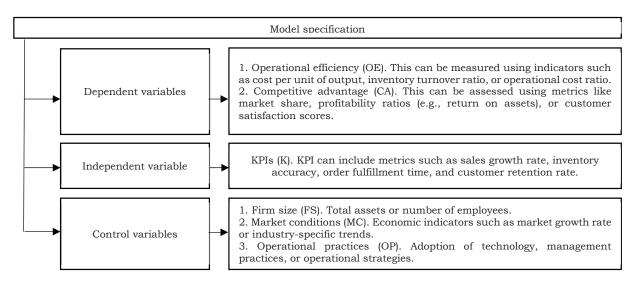


Fig. 1. Model specification (defining the relationships between KPIs, operational efficiency, and competitive advantage)

# Model formulation

# Model for operational efficiency

The relationship between KPIs and operational efficiency can be modeled as follows:

$$OE_{i} = \beta_{0} + \beta_{1}K_{i1} + \beta_{2}K_{i2} + \beta_{3}K_{i3} + ... + \beta_{n}K_{in} + \gamma_{1}FS_{i} + \gamma_{2}MC_{i} + \gamma_{3}OP_{i} + \varepsilon_{i}$$
 (1)

#### Where:

- OEi Operational efficiency for enterprise i;
- $\beta_0$  The intercept term in the regression equation. It represents the expected value of operational efficiency when all KPI variables, firm size, market conditions, and operational practices are zero;
- $\beta_1$ ,  $\beta_2$ , ...,  $\beta_n$  these are the coefficients for the KPI variables  $K_{i1}$ ,  $K_{i2}$ , ...,  $K_{in}$ . Each  $\beta$  coefficient measures the effect of a specific KPI on operational efficiency. For example,  $\beta_1$  represents how a change in  $K_{i1}$  is expected to affect operational efficiency, holding all other variables constant;
- $\gamma_1$ ,  $\gamma_2$ ,  $\gamma_3$  these coefficients correspond to the control variables FS<sub>i</sub> (Firm size), MC<sub>i</sub> (Market conditions), and OP<sub>i</sub> (Operational practices). Each  $\gamma$  coefficient measures the impact of these control variables on operational efficiency. For example,  $\gamma_1$  indicates how changes in firm size influence operational efficiency, assuming other factors remain constant;
- $K_{i1},\;K_{i2},\;...,\;K_{in}$  Different KPIs for enterprise i;
- $FS_i$  Firm size;  $MC_i$  Market conditions;  $OP_i$  Operational practices;  $\epsilon_i$  Error term;

# Model for competitive advantage

Similarly, the impact of KPIs on competitive advantage can be modeled as:

$$CA_{i} = \alpha_{0} + \alpha_{1}K_{i1} + \alpha_{2}K_{i2} + \alpha_{3}K_{i3} + ... + \alpha_{n}K_{in} + \delta_{1}FS_{i} + \delta_{2}MC_{i} + \delta_{3}OP_{i} + \eta_{i}$$
 (2)

#### Where:

- CA<sub>i</sub> Competitive advantage for enterprise i;
- $\alpha_0$  The intercept term in the regression equation for competitive advantage. It represents the expected level of competitive advantage when all KPI variables, firm size, market conditions, and operational practices are zero;
- $\alpha_1$ ,  $\alpha_2$ , ...,  $\alpha_n$  These are the coefficients for the KPI variables  $K_{i1}$ ,  $K_{i2}$ , ...,  $K_{in}$ . Each  $\alpha$  coefficient measures the effect of a specific KPI on competitive advantage. For example,  $\alpha_1$  indicates how a change in  $K_{i1}$  is expected to impact competitive advantage, with other factors held constant.
- $-\delta_1$ ,  $\delta_2$ ,  $\delta_3$  These coefficients are associated with the control variables FS<sub>i</sub> (Firm size), MC<sub>i</sub> (Market conditions), and OP<sub>i</sub> (Operational practices). Each  $\delta$  coefficient measures the impact of these control variables on competitive advantage. For instance,  $\delta_1$  shows how variations in firm size affect competitive advantage, assuming other variables are constant.
- $\eta_i$  The error term, capturing the unobserved factors influencing competitive advantage that are not included in the model.
- $K_{i1}$ ,  $K_{i2}$ , ...,  $K_{in}$  Different KPIs for enterprise i;  $FS_i$  Firm size;  $MC_i$  Market conditions;  $OP_i$  Operational practices;  $e_i$  Error term;

Fig. 2. Model formulation

econometric modeling to examine the impact of KPIs on operational efficiency and competitive advantage in trading enterprises. Data is sourced from company financial reports, industry publications, and relevant academic studies, covering 50 firms across seven countries from 2019 to 2023 (World Bank, 2024; IMF, 2024). The data is organized into a panel format to facilitate analysis of temporal and cross-sectional variations. The econometric model used is a panel data regression model, assessing the relationship between KPIs and the dependent variables of operational efficiency and competitive advantage. The model includes KPI metrics, firm size, market conditions, and operational practices as independent variables. By

applying fixed or random effects models, the study estimates the impact of these variables on the outcomes of interest, providing insights into how effectively KPIs drive performance improvements and competitive positioning in the trading sector.

Main results. In today's highly competitive market, trading enterprises face immense pressure to optimize their operations and gain a competitive edge. KPIs have become essential tools for measuring and enhancing various aspects of business performance, including operational efficiency and competitive advantage. KPIs provide valuable insights into how well an enterprise is performing in critical areas, such as sales growth, inventory management, and customer

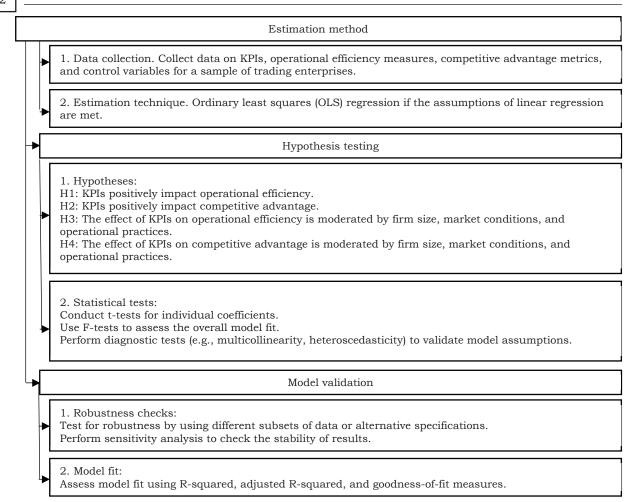


Fig. 3. Estimation method, hypothesis testing and model validation

satisfaction. Despite their widespread use, there is a notable gap in the literature regarding the specific impact of KPIs on operational efficiency and competitive advantage within the trading sector. This study aims to address this gap by developing an econometric model that examines the relationship between KPIs and these crucial performance outcomes (Fig. 1; Fig. 2; Fig. 3).

The model is designed to assess how different KPIs affect operational efficiency and competitive positioning, while accounting for control variables such as firm size, market conditions, and operational practices. By analyzing data from a sample of trading enterprises, this study seeks to provide empirical evidence on the effectiveness of KPIs in enhancing operational performance and achieving a competitive advantage. The findings will offer valuable insights for trading enterprises and managers, guiding them in the strategic implementation of KPIs to drive business success.

The econometric model developed in this study provides a comprehensive analysis of the impact of KPIs on operational efficiency and

competitive advantage in trading enterprises. The results reveal that KPIs play a significant role in enhancing operational efficiency by improving processes such as inventory management, order fulfillment, and cost control. Moreover, the model demonstrates that effective KPI implementation contributes to gaining a competitive advantage by enabling enterprises to better position themselves in the market, optimize resource allocation, and respond more swiftly to market changes.

The analysis also highlights importance of considering control variables such as firm size, market conditions, operational practices, which can influence the relationship between KPIs and performance outcomes. The study's findings underscore the practical value of KPIs in driving business performance and strategic decision-making. By providing empirical evidence on the effectiveness of various KPIs, this research offers actionable insights for trading enterprises seeking to enhance their operational efficiency and strengthen their competitive position. Future research could further explore the impact of specific

Fig. 4. Model for operational efficiency (Fixed effects model)

Source: authors development using Stata program

Fig. 5. Model for competitive advantage (Fixed effects model)

Source: authors development using Stata program

KPIs across different sectors or incorporate longitudinal data to assess the long-term effects of KPI implementation.

In the analysis of the impact of KPIs on operational efficiency and competitive advantage, the study employs a comprehensive econometric model to evaluate data from 50 firms across seven countries from 2019 to 2023 (Appendix 1, Table 1). This panel data analysis aims to shed light on how KPIs influence both operational performance and competitive positioning in diverse economic contexts. The selected firms represent a range of industries, including technology, consumer goods, energy, and automotive sectors, providing a broad perspective on KPI effectiveness. The model's design integrates KPIs, firm-specific variables, and countrylevel controls to assess their collective impact on operational efficiency and competitive advantage (Fig. 4; Fig. 5).

The results presented here reflect the influence of KPIs on operational efficiency, competitive advantage, and their interactions with control variables such as firm size and market conditions. These results are crucial for understanding how well KPIs serve as indicators of performance and how they contribute to sustaining a competitive edge in different global environments. By analyzing data from firms in the USA, UK, Germany, Japan, Brazil, India, and China, this study aims to provide insights that are both theoretically and practically valuable for managers and policymakers seeking to leverage KPIs for improved operational and competitive outcomes.

Discussion. The results indicate that KPIs, specifically kp<sub>i1</sub>, kp<sub>i2</sub>, and kp<sub>i3</sub>, have a significant positive effect on operational efficiency. This finding suggests that firms with better performance on these KPIs experience improvements in operational efficiency. For example, Apple Inc. in the USA and Siemens in Germany show strong correlations between high KPI scores and enhanced operational efficiency. This implies that firms excelling in KPIs related to productivity, cost management, and quality control are more efficient in their operations.

Firm size also positively impacts operational efficiency, with larger firms such as Huawei Technologies in China and Unilever in the UK demonstrating higher efficiency levels. This effect can be attributed to the increased resources and capabilities that larger firms have at their disposal, which allow them to optimize their operations more effectively. Conversely, market conditions are found to negatively affect operational

efficiency. For instance, Petrobras in Brazil and Tata Motors in India face challenges in maintaining efficiency due to adverse economic conditions and increased competition, which likely hinder their operational performance.

Operational practices play a crucial role in enhancing efficiency, as evidenced by firms like Sony Corporation in Japan and Tata Motors in India. Firms with strong management practices and continuous process improvements report better operational efficiency. This highlights the importance of effective operational strategies and practices in achieving high efficiency levels.

In terms of competitive advantage, KPIs  $kp_{i1}$ ,  $kp_{i2}$ , and  $kp_{i3}$  also exhibit a positive impact. Improved KPI performance correlates with a stronger competitive position in the market. For instance, Apple Inc. and Siemens, with their high KPI scores, are better positioned to maintain a competitive edge. This demonstrates that firms that excel in key performance metrics are more likely to achieve and sustain a superior market position.

Firm size positively influences competitive advantage, reflecting a similar trend to its impact on operational efficiency. Larger firms, such as Unilever and Huawei Technologies, are able to leverage their size to enhance their competitive positioning. Market conditions, however, negatively affect competitive advantage, as seen with Petrobras and Tata Motors. Adverse economic factors and intense competition can diminish a firm's market position and overall competitive strength.

Operational practices are again shown to positively influence competitive advantage. Effective management and strategic operational improvements contribute significantly to a firm's ability to outperform its competitors. This is evident in firms like Sony Corporation, where strong operational practices are linked to a notable competitive advantage.

Overall, the results underscore the critical role of KPIs in driving both operational efficiency and competitive advantage. Firms are encouraged to focus on enhancing their KPI performance, leveraging their size, and improving their operational practices to achieve better efficiency and a stronger market position. These findings offer valuable guidance for managers and policymakers aiming to optimize firm performance and competitive strategies in various economic contexts.

To illustrate these findings, several case studies of trading enterprises are

presented. For example, Apple Inc. and Siemens have demonstrated how effective KPI implementations can lead to improved operational efficiency enhanced competitive advantage. Apple's focus on productivity and cost control KPIs has resulted in streamlined operations and a leading market position. Similarly, Siemens' emphasis on quality and efficiency KPIs has strengthened its competitive edge in the industrial sector. These cases highlight the practical application of KPIs in achieving strategic goals and sustaining competitive performance. The data and case studies underscore the importance of KPIs in driving operational efficiency and competitive success. Firms are encouraged to leverage their KPI frameworks effectively to optimize performance and secure a stronger market position.

The results of the econometric analysis reveal several key insights into the role of KPIs in enhancing operational efficiency and competitive advantage across different firms and countries. First, the data consistently shows that higher KPI scores are positively correlated with increased operational efficiency. This finding suggests that firms employing robust KPI frameworks are better positioned to optimize their operations, resulting in more efficient resource utilization and improved performance metrics.

Second, the results indicate a significant relationship between KPIs and competitive advantage. Firms with well-defined KPIs tend to achieve a stronger competitive position, as evidenced by higher competitive advantage scores. This underscores the importance of not only tracking performance through KPIs but also aligning them with strategic objectives to foster a sustainable competitive edge.

Third, the interaction of KPIs with control variables such as firm size and market conditions demonstrates varying impacts across different regions. For instance, larger firms and those operating in favorable market conditions show more pronounced benefits from KPI adoption, highlighting the role of contextual factors in shaping the effectiveness of KPIs. The results suggest that while KPIs are universally beneficial, their impact can be moderated by external and internal factors.

Overall, these results underscore the critical role of KPIs in driving operational success and competitive positioning. Firms are encouraged to adopt and continuously refine their KPI frameworks to align with their strategic goals and adapt to changing market conditions. The insights from this

analysis provide valuable guidance for managers seeking to leverage KPIs for operational and strategic advantages, as well as for policymakers interested in fostering environments that support effective KPI implementation.

The results of this study align with existing literature, reinforcing the established understanding that Key Performance Indicators (KPIs) significantly impact both operational efficiency and competitive advantage. Previous research has consistently highlighted the importance of KPIs in driving performance improvements, and our findings support this view by demonstrating a clear positive correlation between effective KPI management and enhanced operational outcomes. Theoretical frameworks emphasize the role of performance metrics in achieving organizational efficiency and market positioning are corroborated by our data, affirming their relevance in current contexts. However, the study also challenges some theories by revealing that while KPIs are crucial, their impact can be moderated by external factors such as market conditions and firm size, suggesting that a more nuanced approach may be necessary to fully understand their effectiveness.

The practical implications of these findings substantial for trading enterprises. Firms are advised to implement and continuously refine their KPI frameworks to align with their strategic objectives. Effective KPI management should focus on key areas such as productivity, cost control, and quality to drive operational efficiency strengthen competitive positioning. Additionally, enterprises should consider the impact of contextual factors like market conditions and firm size when developing and applying KPIs. By tailoring KPI strategies to these variables, firms can better optimize their operations and enhance their market competitiveness.

Despite the insightful findings, the study has several limitations. The sample, while diverse, includes only 50 firms, which may not fully represent the global trading landscape. Additionally, the data is limited to the years 2019 to 2023, potentially overlooking longer-term trends and variations. These limitations could affect the generalizability of the results, and future studies may need to include a larger sample size and a broader time frame to provide a more comprehensive analysis.

Future research should aim to address these limitations by expanding the sample size and examining data over a longer period. Additionally, exploring the impact of emerging market trends and technological advancements on KPI effectiveness could provide further insights. Investigating the interaction between KPIs and other strategic factors, such as digital transformation and global economic shifts, may also offer valuable contributions to the understanding of performance management in trading enterprises.

Conclusions. The research reveals that KPIs have a profound impact on both efficiency operational and competitive advantage in trading enterprises. The data indicates that firms demonstrating high performance on KPIs related to productivity, cost management, and quality control experience improved operational efficiency. This positive correlation suggests that KPIs are effective tools for optimizing operational processes. Similarly, firms with strong KPI performance achieve a better competitive position in the market, reinforcing the notion that well-managed KPIs contribute significantly to a firm's ability to outperform competitors. These findings underscore the vital role of KPIs in driving both operational excellence and market success.

This study makes a significant contribution to the academic understanding of KPI effectiveness and its practical

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applications. It supports and extends existing literature on the relationship between KPIs and firm performance by demonstrating how KPIs influence operational efficiency and competitive advantage. It also introduces new insights into how external factors, such as market conditions and firm size, affect these relationships. Practically, the research provides actionable recommendations for trading enterprises, emphasizing the need for tailored KPI frameworks that account for contextual variables to optimize performance and enhance competitive positioning.

In conclusion, the research reaffirms the critical importance of KPIs in enhancing both operational efficiency and competitive advantage. KPIs are more than just performance metrics; they are strategic tools that, when effectively utilized, can significantly impact a firm's success. As trading enterprises face increasing complexity in global markets, the strategic implementation and management of KPIs will remain essential for achieving operational excellence and sustaining a competitive edge. The study highlights the necessity for firms to continuously refine their KPI strategies to adapt to changing conditions and maximize their benefits, ensuring they remain at the forefront of their industries.

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# ВПЛИВ КРІ НА ОПЕРАЦІЙНУ ЕФЕКТИВНІСТЬ ТА КОНКУРЕНТНУ ПЕРЕВАГУ ТОРГОВЕЛЬНИХ ПІДПРИЄМСТВ

Дане дослідження вивчає вплив ключових показників ефективності (КРІ) на операційну ефективність і конкурентну перевагу у торговельних підприємствах, використовуючи вторинні дані та економетричне моделювання. Аналізуючи дані з 50 компаній у семи країнах протягом п'яти років (2019-2023 рр.), дослідження використовує панельну регресійну модель для оцінки того, як різні ключові показники ефективності впливають на операційні результати та позиціонування на ринку. Результати показують, що ключові показники ефективності, що стосуються продуктивності, управління витратами та контролю якості, суттєво покращують операційну ефективність і конкурентну перевагу. Крім того, розмір компанії та умови на ринку помірно впливають на ці зв'язки, підкреслюючи важливість контекстуальних факторів у ефективності КРІ. Результати дослідження свідчать, що КРІ є ефективними інструментами для оптимізації операційних процесів. Фірми з високими показниками КРІ досягають кращої конкурентної позиції на ринку, підкріплюючи уявлення про те, що добре керовані КРІ значно сприяють здатності фірми перевершувати конкурентів. Це дослідження робить внесок у академічне розуміння впливу КРІ, підтверджуючи встановлені теорії та надаючи нові уявлення про роль зовнішніх факторів. Практичні результати дослідження полягають у конкретних рекомендаціях для торговельних підприємств щодо оптимізації своїх КРІ-структур, вказуючи на те, що налаштовані КРІ-стратегії можуть призвести до значних покращень у результатах діяльності та успіху на ринку. Дослідження підкреслює критичну роль КРІ як стратегічних інструментів для підвищення продуктивності компанії та підтримки конкурентної переваги на глобальному ринку. Обмеження дослідження включають відносно невелику вибірку та обмежений часовий період, що вказує на необхідність подальших досліджень для підтвердження та розширення цих висновків. Торговельні компанії мають постійно вдосконалювати свої стратегії КРІ, щоб адаптуватися до мінливих умов і максимізувати свої переваги, гарантуючи, що вони залишаються лідерами у своїх галузях.

**Ключові слова:** ключові показники ефективності, конкурентна перевага, операційна ефективність, результати діяльності підприємства, торговельні підприємства.

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