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# LEVERAGING AI-ENHANCED PAYMENT AND FINANCIAL SYSTEMS TO ENHANCE PERFORMANCE OF TAXI BUSINESS IN NAIROBI COUNTY, KENYA

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## ABSTRACT

**Statement of the Problem:** Use of AI-Enhanced Payment and Financial Systems is crucial in transforming taxi business operations by optimizing routes, improving customer experiences, predicting demand, and effectively lowering operational costs. However, the scenario is quite different for taxi businesses in Nairobi County, where performance remains low.

**Purpose of the Study:** To leverage AI-Enhanced Payment and Financial Systems to enhance performance of taxi business in Nairobi County, Kenya.

**Methodology:** The study employed a mixed-method approach with concurrent triangulation, targeting 37,838 respondents (17,045 taxi operators and 20,793 taxi drivers) in Nairobi County. Using Yamane's Formula, a sample of 391 respondents was selected through a combination of stratified sampling across 17 sub-counties, purposive sampling for taxi operators (170), and simple random sampling for taxi drivers (221). Data analysis combined thematic analysis for qualitative data and both descriptive and inferential statistics (using SPSS Version 25) for quantitative data.

**Findings:** The study established that performance of taxi business has been on a downward trend. This is attributed to the inability to taxi operators to effectively use AI-Enhanced Payment and Financial Systems as a form of AI application.

**Recommendations:** Taxi operators and owners should consider investing in AI-Enhanced Payment and Financial Systems-driven price optimization and data privacy tools to improve operational efficiency and customer satisfaction. This would allow taxi operators to leverage AI-Enhanced Payment and Financial Systems to predict areas of high demand, optimize prices in real-time based on traffic conditions, and reduce idle times.

**Keywords:** *Leveraging, AI-Enhanced Payment, Financial Systems, Performance, Taxi Business*

## INTRODUCTION

Taxi business plays a crucial role in the economic growth and development of any nation, significantly contributing to the achievement of Sustainable Development Goals (SDGs). To achieve this important goal, it is essential to enhance the performance of the taxi industry. Unfortunately, the current performance levels are not very high. For example, a study by Vishnu and Krishnan (2024) indicates that in India, 45.9% of taxi businesses face substantial transport costs, low service delivery efficiency, time wastage, and an increase in theft incidents. A similar situation exists in the Netherlands, where the performance of the taxi sector is also lacking. To address these issues, stakeholders in the transport sector have begun to adopt AI-Enhanced Payment and Financial Systems as a form of artificial intelligence (AI) application.

AI-Enhanced Payment and Financial Systems is virtual-driven approach that can handle the changing requirements of systems. With the goal for facilitating the process of developing analytical models, Coraddu et al. (2015) claim that AI-Enhanced Payment and Financial Systems automatically learns implicit trends in past data in order to calculate the transport cost and prompt a client to make payment through the system hence reducing human interactions when money is involved. In a study carried out in Sri Lanka, Abeywickrama and Wickramaarachchi (2015) found that AI-Enhanced Payment and Financial Systems component of artificial intelligence has improved performance of taxi business. Abeywickrama and Wickramaarachchi (2015) further established that, due to AI-Enhanced Payment and Financial Systems' ability to quickly process large of data from a myriad of sources and calculate prices for a ride in the transport sector within minutes, the technology has inevitably become a staple in logistics.

In keeping with these findings, Aziz, Razak, Yaacob, Hussein and Razmin (2016) conducted an investigation in Malaysia and found that the use of AI-Enhanced Payment and Financial Systems techniques to enhance security and minimize errors made by humans, minimize adverse environmental consequences, and boost public transport efficiency and effectiveness has improved logistical efficiency for transport by 16.9 percent. This indicates that AI-Enhanced Payment and Financial Systems techniques have become an integral part of realizing smart transportation. In other words, with AI-Enhanced Payment and Financial Systems technology application of AI, taxi operators are able to receive payment without difficulties in

negotiation since the system sets the price prior to an engagement to enable the customer make informed decision when placing an order.

A study conducted in Switzerland by Mathauer and Hofmann (2019) found that AI-Enhanced Payment and Financial Systems has helped to lower risk among suppliers, enhance supplier service quality, and save transportation costs in the joint logistics and supply chain industry. According to Mathauer and Hofmann (2019), with AI-Enhanced Payment and Financial Systems, taxi operators have been able to optimize routes, schedules and reduce delay time and improve efficiency in service delivery. This indicates that AI-Enhanced Payment and Financial Systems application of AI provide users with ability to understand their expenditure patterns and help transport firms to efficiently manage their operations.

In many countries in Africa, the concept of AI-Enhanced Payment and Financial Systems has been recognized as a tool for improving transport operations. For example, an investigation conducted in Tanzania by Zephania (2019) recognized that the integration of AI-Enhanced Payment and Financial Systems into the transportation sector holds tremendous promise for enhancing efficiency, safety and sustainability. Zephania (2019) further found that the impact of AI-Enhanced Payment and Financial Systems is increasingly evident, as innovative solutions transform the way goods move. In Uganda, Mugambi (2017) carried out a study which established that, by incorporating AI-Enhanced Payment and Financial Systems in long-distance trucks, taxi operators have registered improved performance in their logistics. According to Mugambi (2017), by using real-time data from sensors, cameras and mobile devices, these systems analyze traffic patterns and adjust signal timings dynamically. This approach has significantly reduced travel times and alleviate congestion in cities worldwide, improved efficiency. In other words, the adoption of AI-Enhanced Payment and Financial Systems application of AI leads to cheaper transport costs, less traffic and an enhanced travel experience.

A study carried out by Kithiia (2015) found that AI-Enhanced Payment and Financial Systems is helping to optimize these processes and improve efficiency in service delivery. Kithiia (2015) further established that taxi operators have used AI-Enhanced Payment and Financial Systems to streamline delivery operations. According to Kithiia (2015), through AI-Enhanced Payment and Financial Systems, taxi owners are able to collect money from customers, and delivery routes. The study further established that this results in faster deliveries, lower fuel

consumption and reduced operational costs. A similar study conducted by Kabiru (2016) revealed that AI-Enhanced Payment and Financial Systems are being used to enhance financial safety.

According to Kabiru (2016), this reduces waste, reduces transportation costs and improves efficiency. This improves the consumer's expertise in addition to helping drivers maximize their earnings by reducing idle time and fuel consumption through the use of shorter and clear routes. However, much needed to be done since Kithiia (2015), Kabiru (2016) and others have not interrogated how specific aspects of AI-Enhanced Payment and Financial Systems form of AI affect performance of taxi business, hence the study.

## STATEMENT OF THE PROBLEM

Use of AI-Enhanced Payment and Financial Systems is crucial in transforming taxi business operations by optimizing routes, improving customer experiences, predicting demand, and effectively lowering operational costs. However, the scenario is quite different for taxi businesses in Nairobi County, where performance remains low. A report by IEA (2022) revealed that 62% of independent taxi drivers in Nairobi struggle to maintain profitability due to fluctuating fuel prices and high vehicle maintenance costs. Additionally, over 70% of taxi drivers reported a significant decline in their daily earnings, with average income dropping from Kshs 5,000 per day in 2017 to just Kshs 2,500 per day by 2022. The report also noted that around 30% of taxi drivers in Nairobi have either left the industry or are contemplating doing so due to the challenges in sustaining their operations. This trend has directly affected the achievement of Sustainable Development Goals (SDGs), contributing to a decline in employment within the sector and further reducing the number of taxis operating in Nairobi County. To address these challenges, taxi operators have begun to adopt and utilize new and disruptive artificial intelligence tools, including AI-Enhanced Payment and Financial Systems. Despite this situation, there has been limited empirical research on how the use of AI-Enhanced Payment and Financial Systems as an AI tool impacts the performance of taxi businesses, highlighting the need for this study.

## OBJECTIVES OF THE STUDY

The study was guided by the following objectives:

i. To assess the status of performance of taxi business in Nairobi County.

ii. To examine the effect of AI-Enhanced Payment and Financial Systems on performance of taxi business in Nairobi County.

## THEORETICAL FRAMEWORK

This investigation is grounded in the theory of Artificial Intelligence, first proposed by Turing in 1950. This theory suggests that machines can perform tasks that typically require human intelligence. Artificial Intelligence (AI) encompasses various subfields, including AI-Enhanced Payment and Financial Systems. The core principle of AI theory is to develop techniques and frameworks that enable machines to replicate functions of the human brain, such as learning, problem-solving, reasoning, awareness, and decision-making. AI-Enhanced Payment and Financial Systems, a subset of AI, focuses on creating methods that allow computers to learn from data and make decisions or predictions without being explicitly programmed. Deep learning, in particular, is inspired by the structure and function of the human brain, which is essential in payment transactions in a taxi business. Ultimately, AI theory aims to replicate and even exceed human intelligence in a range of tasks, driving advancements in automation, personalization, efficiency, and problem-solving across various industries and applications. In the context of this investigation, the theory underscores the importance of AI tools in the transportation sector, particularly for long-distance vehicles that require continuous monitoring and oversight.

This study was also guided by performance theory, as proposed by Morash and Clinton (1997). The origins of this theory lie in logistics, which emphasizes the efficient management of goods, services, and information flow. It provides a structured method for analyzing, optimizing, and managing transportation network performance. By focusing on key performance indicators like delivery times, costs, and reliability, the theory aims to offer insights that help decision-makers improve logistical operations. In this study, the theory highlights the importance of optimizing transportation systems to boost efficiency, lower costs, and enhance overall operational effectiveness. Its relevance is particularly evident in examining factors such as the use of AI tools that influence transportation network performance, including modal choice, routing decisions, and inventory management.

This theory is essential for identifying strategies to streamline transport operations and gain a competitive edge. It also provides valuable insights into how various strategies and

technologies, such as AI-Enhanced Payment and Financial Systems, can be utilized to enhance performance in the taxi sector. By applying performance theory principles, taxi operators can make informed decisions that lead to greater productivity, customer satisfaction, and profitability. This study demonstrates that a thorough understanding of integration dynamics and the use of advanced technologies are vital for optimizing taxi business systems.

## RESEARCH METHODOLOGY

This study utilized a mixed methodology and a concurrent triangulation research design. The target population included 37,838 respondents, comprising 17,045 taxi operators and 20,793 taxi drivers. Using Yamane's Formula, a sample size of 391 respondents was calculated. Stratified sampling created 17 strata based on the number of sub-counties in Nairobi County. From each sub-county, 10 taxi operators were chosen through purposive sampling, while 13 taxi drivers were selected from each sub-county using simple random sampling. This approach resulted in a sample of 170 taxi operators and 221 taxi drivers. Data analysis commenced with identifying common themes from the respondents' experiences. Qualitative data were analyzed thematically and presented in a narrative format, while quantitative data were analyzed using descriptive statistics (frequencies and percentages) and inferential statistics through Pearson's Product Moment Correlation Analysis with SPSS Version 25. Quantitative results were displayed in tables.

## RESULTS AND DISCUSSIONS

This section presents the findings of the study based on the objective. It also outlines the methods of presentation of the study findings and discussions.

## RESPONSE RATES

In this study, 221 questionnaires were administered to taxi drivers and 89 questionnaires were filled and returned. The researcher also interviewed 132 taxi operators. This yielded response rates shown in Table 1.

**Table 1: Response Rates**

| Respondents | Sampled Respondents | Those Who Participated | Achieved Return Rate (%) |
|---|---|---|---|
| Taxi Operators | 170 | 132 | 77.6 |
| Taxi Drivers | 221 | 216 | 97.7 |
| **Total** | **391** | **348** | **89.0** |

Table 1 indicates that taxi operators had a response rate of 77.6%, while taxi drivers achieved a rate of 97.7%. This resulted in an overall average response rate of 89.0%, aligning with Creswell's (2014) assertions that a response rate exceeding 75.0% is sufficient. This data was crucial as it enabled the researcher to extrapolate the study findings to the target population.

**Status of Performance of Taxi Businesses**

The study aimed to evaluate the performance of taxi businesses. This was done by gathering data on improved passenger movement efficiency, decreased theft incidents, movement times, and transportation costs. Descriptive data were collected from taxi drivers, and the results are presented in Table 2;

**Table 2: Views of Taxi Drivers on the Status of Performance of Taxi Businesses**

| Test Items | Ratings | | |
|---|---|---|---|
| | Good % | Fair % | Below Average % |
| Efficiency in movement of passengers | 13.9 | 35.2 | 50.9 |
| Reduction in theft | 38.9 | 25.0 | 36.1 |
| Reduction of movement time | 18.5 | 48.2 | 33.3 |
| Reduction in transportation cost | 44.4 | 35.2 | 20.4 |

Table 2 shows that 110 (50.9%) of the taxi drivers stated that the efficiency in the movement of passengers is below average, while 76 (35.2%) indicated it is fair, and only a small number, 30 (13.9%), reported that the efficiency has been good. Similarly, 84 (38.9%) of the taxi drivers felt that efforts to reduce theft have been good, a quarter, 54 (25.0%), rated it as fair, and 78 (36.1%) said it was below average. Regarding movement time, most taxi drivers, 104 (48.2%), reported that efforts to reduce movement time have been fair, a third, 72 (33.3%), rated it as below average, while 40 (18.5%) noted that the reduction in movement time has been good. The study also found that 96 (44.4%) of the taxi drivers observed that the reduction in

transportation costs for customers has been good, 76 (35.2%) rated it as fair, and 44 (20.4%) noted it as below average. During the interviews, the taxi operators expressed the view that the performance of the taxi business has not been satisfactory in terms of efficiency in passenger movement, reduction in theft, delivery time, and transportation costs. Taxi operator, TO1, noted;

> *Though there have been commendable efforts to improve performance of the taxi sector, much is yet to be fully realized. Efficiency in the movement of passengers is still low, there are still cases of theft, delays as well as minimal reduction in transportation cost.*

These findings support a report by the IEA (2022), which revealed that 62% of independent taxi drivers in Nairobi struggle to maintain profitability due to fluctuating fuel prices and high vehicle maintenance costs. Additionally, over 70% of taxi drivers in Nairobi reported a significant decline in their daily earnings, with around 30% either leaving the industry or contemplating doing so because they cannot sustain their operations. This highlights the numerous performance issues within the taxi business, leading to decreased efficiency in essential areas. Passenger movement is often hindered by poor route optimization and miscommunication between dispatchers and drivers, resulting in longer travel times and customer frustration, which ultimately affects loyalty. Furthermore, there have been reports of theft that compromise the industry's operations, putting both drivers and riders at risk of property loss and diminishing their trust in the service. Movement time remains a pressing concern, as traffic congestion, lack of real-time tracking, and insufficient planning frequently cause delays, undermining service reliability. In summary, these findings indicate that the performance of taxi businesses is notably slow, despite the efforts being made to improve the situation.

**AI-Enhanced Payment and Financial Systems in Relation to Performance of Taxi Businesses**

The study aimed to explore the impact of AI-Enhanced Payment and Financial Systems on the performance of taxi businesses. Descriptive data were gathered from each teacher in the selected public secondary schools, organized, and summarized into key insights. The results are displayed in Table 3;

**Table 3: Views of Taxi Drivers on Influence of AI-Enhanced Payment and Financial Systems on Performance of Taxi Businesses**

| Test Items | Ratings | | | | |
|---|---|---|---|---|---|
| | SA % | A % | U % | D % | SD % |
| Use of supervised AI-Enhanced Payment and Financial Systems technology has improved performance of taxi businesses | 51.9 | 11.6 | 5.6 | 5.6 | 25.3 |
| To improve performance of taxi businesses, drivers have sometimes adopted use unsupervised AI-Enhanced Payment and Financial Systems form of AI | 54.2 | 14.4 | 5.6 | 11.6 | 14.4 |
| In taxi businesses, drivers rarely use reinforcement AI-Enhanced Payment and Financial Systems as a way of improving performance | 57.9 | 9.3 | 7.4 | 9.3 | 16.2 |
| By adopting AI-Enhanced Payment and Financial Systems AI, performance of taxi businesses has improved | 48.2 | 8.8 | 5.6 | 20.8 | 16.7 |
| Though useful, taxi businesses have not fully adopted use of AI-Enhanced Payment and Financial Systems as a way of improving performance | 66.5 | 11.3 | 3.3 | 5.4 | 13.5 |

Table 3 indicates that 112 (51.9%) of taxi drivers strongly agreed that the use of AI-Enhanced Payment and Financial Systems technology has enhanced the performance of taxi businesses, while 25 (11.6%) agreed, 12 (5.6%) were undecided, 12 (5.6%) disagreed, and 55 (25.3%) strongly disagreed. The study also found that 117 (54.2%) of the taxi drivers strongly agreed that, to boost performance, drivers have occasionally adopted AI-Enhanced Payment and Financial Systems forms of AI, with 31 (14.4%) agreeing. However, 12 (5.6%) were undecided, 25 (11.6%) disagreed, and 31 (14.4%) strongly disagreed. Additionally, the study established that 125 (57.9%) of the taxi drivers strongly agreed that AI-Enhanced Payment and Financial Systems is rarely used in taxi businesses to enhance performance, while 20 (9.3%) agreed. In contrast, 16 (7.4%) were undecided, 20 (9.3%) disagreed, and 35 (16.2%) strongly disagreed.

In addition, the study revealed that 104 (48.2%) of the taxi drivers strongly agreed that adopting AI-Enhanced Payment and Financial Systems has improved the performance of taxi businesses, with 19 (8.8%) agreeing. Meanwhile, 12 (5.6%) were undecided, 45 (20.8%) disagreed, and 36 (16.7%) strongly disagreed. Notably, two-thirds of the taxi drivers, 144

(66.7%), strongly agreed that, although useful, taxi businesses have not fully embraced AI-Enhanced Payment and Financial Systems as a means of enhancing performance, while only 25 (11.6%) agreed, 8 (3.7%) were undecided, 12 (5.6%) disagreed, and 27 (12.5%) strongly disagreed. These findings highlight the ongoing challenges faced by the taxi industry in improving performance, despite the integration of AI technologies like AI-Enhanced Payment and Financial Systems. These findings support the claims made by Zhang et al. (2021) that while AI-Enhanced Payment and Financial Systems offer features like optimized route planning, predictive transport cost for a ride, and demand forecasting, which theoretically should enhance operational efficiency and customer satisfaction, this has not been reflected in practice. According to Zhang et al. (2021), the anticipated benefits often fail to materialize. In contrast, a study conducted in Sri Lanka by Abeywickrama and Wickramaarachchi (2015) found that the AI-Enhanced Payment and Financial Systems aspect of artificial intelligence has indeed improved the performance of the taxi business. They further noted that AI-Enhanced Payment and Financial Systems' capability to rapidly analyze and calculate the cost various sources and propose solutions to emerging operational challenges in the transport sector within minutes has made it an essential tool in logistics.

Research in Malaysia by Aziz et al. (2016) also indicated that employing AI-Enhanced Payment and Financial Systems techniques to enhance security, reduce human errors, lessen negative environmental impacts, optimize energy use, and improve public transport efficiency has led to a 16.9 percent increase in logistical efficiency for transport. Despite these discrepancies, the findings highlight that the integration of AI-Enhanced Payment and Financial Systems in the taxi industry was expected to transform operations through data-driven decision-making, route optimization, and effective fleet management.

**Inferential Analysis**

To assess the impact of AI-Enhanced Payment and Financial Systems on the performance of taxi businesses, data was gathered from a sample of 10 taxi operators regarding the frequency of their use of AI-Enhanced Payment and Financial Systems tools (rated as Very Often = 5, Often = 4, Sometimes = 3, Rarely = 2, and Never = 1) and the average number of theft incidents reported in taxi businesses over the past five years (2019 to 2023). The findings are presented in Table 4:

**Table 4: Frequency of Use of AI-Enhanced Payment and Financial Systems in Relation to the Average Number of Theft Cases in Taxi Businesses**

| Frequency of Use of AI-Enhanced Payment and Financial Systems | Average Number of Theft Cases in Taxi Businesses |
|---|---|
| 3 | 723 |
| 5 | 346 |
| 2 | 539 |
| 3 | 654 |
| 2 | 707 |
| 2 | 588 |
| 1 | 812 |
| 2 | 903 |
| 3 | 764 |
| 3 | 567 |

Table 4 illustrates that as taxi operators increasingly utilize AI-Enhanced Payment and Financial Systems, the incidence of theft decreases, leading to enhanced performance. This suggests that regular application of AI-Enhanced Payment and Financial Systems in the taxi industry significantly improves operations by tackling key challenges. Such algorithms process large datasets to optimize routes, forecast traffic conditions, and shorten delivery times, which in turn boosts customer satisfaction. By consistently using predictive analytics and real-time monitoring, taxi companies can lower the risk of theft, thereby ensuring the safety of passengers and the protection of assets. In addition, it improves resource management, including driver assignments and fuel usage, which helps to cut overall transportation costs. This integration of technology promotes efficient, secure, and cost-effective services, making taxi operations more competitive and dependable in a rapidly evolving and tech-driven transportation landscape. The findings in Table 4 underwent Pearson's Product Moment Correlation Analysis, with the results presented in Table 5:

**Table 5: Relationship between AI-Enhanced Payment and Financial Systems and Performance of Taxi Businesses**

| | | Frequent Use of AI-Enhanced Payment and Financial Systems | Performance of Taxi Businesses |
|---|---|---|---|
| Frequent Use of AI-Enhanced Payment and Financial Systems | Pearson Correlation | 1 | -.670* |
| | Sig. (2-tailed) | | .034 |
| | N | 10 | 10 |
| Performance of Taxi Businesses | Pearson Correlation | -.670* | 1 |
| | Sig. (2-tailed) | .034 | |
| | N | 10 | 10 |

Table 5 shows a connection between the use of AI-Enhanced Payment and Financial Systems and the performance of taxi businesses ($r(10) = -0.670$, $p = 0.034$ at $\alpha = 0.05$). This means that as taxi operators increasingly utilize AI-Enhanced Payment and Financial Systems, the number of theft cases tends to decrease (indicated by the negative sign). This suggests that by regularly employing such algorithms, taxi companies can enhance their operations, lower costs, and improve customer satisfaction, giving them a competitive advantage in a fast-changing market. By consistently analyzing historical ride data, traffic patterns, and weather conditions, such models can effectively predict high-demand areas and peak times. This allows companies to allocate their resources more efficiently, minimizing idle time and maximizing driver earnings.

Moreover, the frequent application of AI-Enhanced Payment and Financial Systems also boosts operational efficiency by optimizing route planning. Algorithms can determine the shortest and least congested routes, which helps to cut down on travel time and fuel usage. Additionally, customer experience is improved through personalized services, such as app-based ride suggestions, estimated time of arrival (ETA) forecasts, secure online payment methods, and targeted promotions. In summary, these findings highlight that the regular use of AI-Enhanced Payment and Financial Systems as a form of AI empowers taxi businesses to streamline their transactions, enhance service quality, and respond to market changes, making it an essential tool for success in today's competitive transportation industry.

**Thematic Analysis**

During the interviews, the taxi operators mentioned that the implementation of supervised AI-Enhanced Payment and Financial Systems technology has enhanced the performance of their taxi businesses. When asked for more details, taxi operator TO2 shared;

> *In my taxi business, since I adopted use of AI-Enhanced Payment and Financial Systems, performance of my business has improved, though not much. I have witnessed reduced cases of theft, movement time of customers and beneficial to clients in terms of transportation cost and easier and safe transaction processes.*

The qualitative findings highlight the important role of AI-Enhanced Payment and Financial Systems in improving the efficiency of taxi operations, even with the challenges that come with its implementation. Both quantitative and qualitative analyses show that the growing use of AI-Enhanced Payment and Financial Systems in the taxi industry is crucial for boosting operational efficiency, optimizing routes, and forecasting demand patterns. These improvements lead to better customer satisfaction and higher profitability. Although there are hurdles like high implementation costs and possible technical issues, AI-Enhanced Payment and Financial Systems is still a vital tool for transforming the industry. By utilizing data-driven insights, taxi companies can effectively manage the complexities of urban transportation.

Ongoing innovation in this area illustrates how technology can change traditional practices and provide sustainable solutions for taxi services, enhancing their flexibility and competitiveness in a constantly changing market. This suggests that, while AI-Enhanced Payment and Financial Systems, a subset of artificial intelligence (AI), has made a significant impact across various sectors, there remains room for further improvement in the performance of taxi services.

## CONCLUSIONS

From the study findings, it is evident that there has been a trend of declining performance in taxi businesses. There are many instances of both ineffective and inefficient passenger transport, along with issues like theft, delays, and rising transportation costs. To address these challenges, some taxi operators have turned to AI-Enhanced Payment and Financial Systems, a form of AI that can significantly enhance operations and performance through safe and fair transactions. However, many taxi operators have yet to adopt this technology. The study highlights the importance of integrating AI-Enhanced Payment and Financial Systems into the taxi industry as an AI tool that could transform operations through data-driven decision-making, route optimization, and better fleet management. Despite this potential, the anticipated improvements have not led to significant enhancements in the performance of most taxi businesses.

## RECOMMENDATIONS

The study recommends that taxi operators and owners should consider investing in AI-Enhanced Payment and Financial Systems-driven price optimization and data privacy tools to improve operational efficiency and customer satisfaction. This would allow taxi operators to leverage AI-Enhanced Payment and Financial Systems to predict areas of high demand, optimize prices in real-time based on traffic conditions, and reduce idle times. This can lead to faster and safer service, better fuel efficiency, and improved overall performance, benefiting both the operators and customers.

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