

Building sustainable competitiveness in road transport: a dynamic capabilities perspective

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Abstract

Purpose – This study aims to examine how road transport firms in Uganda sustain competitiveness within volatile and resource-constrained environments.

Design/methodology/approach – An exploratory qualitative approach was adopted, involving semistructured interviews with 21 senior managers from seven licensed road transport firms. Data were analyzed using the Gioia methodology to generate first-order concepts, second-order themes and aggregated dimensions.

Findings – This study reveals that sensing capabilities enable firms to anticipate market shifts, customer needs and regulatory changes; seizing capabilities facilitate operational flexibility, technological adoption and strategic partnerships; and transforming capabilities support organizational learning, staff development and good governance. Together, these capabilities enhance adaptability, innovation and long-term competitiveness.

Practical implications – Managers are encouraged to integrate dynamic capabilities into strategic planning, invest in technology and foster learning and governance. Policymakers should create regulatory frameworks that balance compliance with flexibility and support industry partnerships to improve sectoral efficiency and sustainability.

Originality/value – This study extends Dynamic Capabilities Theory to road transport in a developing country, providing empirical evidence of how firm-level capabilities sustain competitiveness under turbulent operating conditions.

Keywords Sustainable competitiveness, Road transport, Dynamic capabilities

Paper type Research paper

1. Introduction

Within the broader field of strategic management, sustaining competitiveness has increasingly become a central concern for firms operating in volatile and resource-constrained environments (Porter, 1990; Teece, 2007). Traditionally, competitiveness was largely assessed through indicators such as cost efficiency, market share and financial



performance. However, contemporary scholarship has shifted toward the concept of sustainable competitiveness, which emphasizes the ability of firms to maintain superior performance over time while simultaneously adapting to environmental, technological and institutional changes (Aziz *et al.*, 2025; McDougall *et al.*, 2022). Sustainable competitiveness therefore reflects a long-term orientation that integrates economic resilience, responsible innovation and efficient resource utilization in dynamic markets (Kabahinda *et al.*, 2025). This shift is driven by increasing pressures on firms to continuously adapt their strategies, innovate responsibly and operate efficiently amidst rapid technological advancements, regulatory reforms and intensifying competition (Akhtar *et al.*, 2020).

Within this evolving landscape, the transport sector, widely recognized as the backbone of economic development, plays a critical role in enabling sustained competitiveness across economies (UNCTAD, 2022). Transport systems facilitate mobility, enable trade flows and support productivity across industries (Bofinger, 2011; Rodrigue, 2016; Ssekiziyivu *et al.*, 2025b). In particular, road transport remains the dominant mode of movement in many developing countries, where it serves as the primary conduit for both passenger and freight transport. Despite its strategic importance, the sector faces persistent structural and operational challenges that threaten firms' ability to maintain sustainable competitiveness. These challenges include fluctuating fuel prices, inadequate infrastructure, regulatory uncertainties, safety concerns, environmental pressures and operational inefficiencies (Ssekiziyivu *et al.*, 2023). In such turbulent environments, firms must continuously develop and renew dynamic capabilities to sense opportunities and threats, seize emerging opportunities and transform internal resources and processes so as to sustain competitiveness over time (Teece, 2007; Kurtz and Varvakis, 2016).

The need to sustain competitiveness is particularly pronounced in developing economies such as Uganda, where road transport accounts for over 95% of passenger and freight movement [Ministry of Works and Transport (MoWT) report, 2022; Ssekiziyivu *et al.*, 2023]. Road transport firms in Uganda operate in an environment characterized by limited technological adoption, high vehicle maintenance costs, informal industry structures and unpredictable market conditions. These constraints are further compounded by macroeconomic pressures such as volatile fuel prices, recurrent inflation, high taxation levels and escalating operational costs that erode profit margins and undermine firms' long-term viability (Ministry of Finance, Planning and Economic Development, 2024; Agiresaasi, 2023; Ssekiziyivu *et al.*, 2025a). In addition, fragmented regulatory frameworks, weak governance structures and limited managerial oversight within many transport firms exacerbate the sector's competitiveness challenges (Uganda Traffic and Road Safety Act, 2020; East African Family Business Survey Report, 2021; Ssekiziyivu and Banyenzaki, 2021). Consequently, many transport firms struggle to survive beyond their early years of operation, suggesting deeper structural and managerial limitations that constrain their ability to sustain competitiveness in the long term (Ministry of Works and Transport (MoWT) report, 2022; Ssekiziyivu *et al.*, 2025b). Recent East African studies highlight persistent challenges including regulatory volatility, rising operational costs, technological disruptions, weak governance systems and infrastructure limitations that constrain long-term competitiveness among transport firms (Ssekiziyivu *et al.*, 2023; Rodrigue, 2020). Studies further demonstrate that firms operating in resource-constrained environments increasingly rely on adaptive operational practices, organizational learning, innovation and relational partnerships to sustain competitiveness and resilience (Ssekiziyivu *et al.*, 2025a; Ssekiziyivu *et al.*, 2025b; Ahimbisibwe *et al.*, 2024; Alinda *et al.*, 2024).

Despite the strategic importance of the transport sector, existing scholarship on competitiveness and sustainability has largely focused on industries such as manufacturing,

hospitality, energy and logistics (Singh *et al.*, 2019; Lopez-Torres *et al.*, 2022; Alinda *et al.*, 2024). Within the transport domain, many studies emphasize macrolevel factors, including infrastructure quality, regulatory efficiency and modal integration (Mullen and Marsden, 2015). Research addressing sustainability in transport has also predominantly focused on environmental issues such as emissions reduction, green logistics and transport policy reforms (Shah *et al.*, 2021; Ahmad *et al.*, 2024; Kottala *et al.*, 2025), with limited understanding of how individual road transport firms strategically respond to dynamic and uncertain environments to sustain competitiveness over time. Furthermore, much of the existing literature relies on quantitative approaches or focuses on transport modes such as aviation and maritime transport, which operate under institutional and operational conditions that differ significantly from those faced by road transport firms in developing economies (Gu and Liu, 2025; Katana, 2017). Given the sector's strategic importance, the volatility of its operating environment, and the alignment with national development agendas that emphasize competitive and efficient transport systems, there is a critical need to examine how road transport firms sustain competitiveness over time. Scholars have also called for more context-sensitive and qualitative investigations that capture lived managerial experiences, firm-level capabilities and organizational responses to environmental turbulence (Teece *et al.*, 2016; Eisenhardt *et al.*, 2016). To address these gaps, the study examines how road transport firms develop and deploy dynamic capabilities to sustain competitiveness in volatile environments.

This study adopts an inductive qualitative approach to explore how road transport firms sustain competitiveness in volatile environments. Rather than imposing Dynamic Capabilities Theory as a predetermined analytical framework, the study allows organizational practices and capability mechanisms to emerge from participants' narratives through the Gioia methodology. Dynamic Capabilities Theory is subsequently used as an interpretive lens to explain the emergent dimensions and their role in sustaining competitiveness.

This study contributes to the literature in three key ways. First, theoretically, the study extends Dynamic Capabilities Theory by demonstrating how transport firms operating in volatile and resource-constrained environments develop context-specific mechanisms for sustaining competitiveness. Rather than treating sensing, seizing and transforming capabilities as predetermined constructs, the study inductively uncovers how these capabilities emerge through managerial responses to fuel volatility, regulatory uncertainty, customer demands, operational disruptions and governance challenges. The findings therefore extend dynamic capabilities scholarship by illustrating its practical manifestation within informal and infrastructure-constrained transport systems in emerging economies. Second, empirically, the study provides qualitative insights into the processes through which transport firms sense emerging opportunities and threats, seize strategic responses and transform internal operations to maintain sustainable competitiveness. Such firm-level insights remain limited within existing transport and sustainability scholarship. Third, practically, the study offers implications for transport managers and policymakers seeking to strengthen operational resilience, governance practices and long-term competitiveness within the sector. These insights are particularly relevant for supporting national development priorities, which emphasize the development of efficient, reliable and sustainable transport systems (National Planning Authority, 2024).

2. Literature review

2.1 Conceptualizing sustainable competitiveness

Early strategy research emphasized sustainable competitive advantage, which refers to a firm's ability to outperform competitors over an extended period through the possession of

valuable, rare, inimitable and nonsubstitutable (VRIN) resources (Barney, 1991; Black and Boal, 1994). Within this perspective, firm success was largely attributed to the ownership of unique resources that competitors could not easily replicate. However, this resource-centric view has been increasingly challenged by scholars who argue that competitive advantage cannot remain static in rapidly changing environments. As markets become more volatile, technological disruptions intensify and sustainability pressures increase, firms must continually renew and reconfigure their capabilities to remain competitive. This shift has led to the emergence of the concept of sustainable competitiveness, which emphasizes a firm's ability to maintain superior performance over time through continuous adaptation to economic, environmental and social pressures (Doyle and Perez-Alaniz, 2017; Arraya and Ferreira, 2024).

2.2 *Dynamic Capabilities Theory*

Dynamic Capabilities Theory explains how firms adapt to rapidly changing environments through organizational processes that support the renewal and reconfiguration of resources and capabilities (Teece *et al.*, 1997). Existing research suggests that firms sustain competitiveness by continuously responding to environmental changes, operational disruptions and evolving market conditions (Eisenhardt and Martin, 2000; Teece, 2007). Although Dynamic Capabilities Theory has been widely applied in strategic management research, limited studies have explored how such capabilities emerge within road transport firms operating in volatile and resource-constrained developing-country contexts. This study therefore draws on Dynamic Capabilities Theory as an interpretive framework for understanding the organizational mechanisms that emerge from managers' experiences in sustaining competitiveness.

2.3 *Dynamic capabilities and sustainable competitiveness in transport firms*

Dynamic capabilities play an important role in enabling firms to sustain competitiveness in volatile and resource-constrained environments. Existing literature suggests that firms maintain long-term competitiveness through continuous adaptation, operational responsiveness, organizational learning and strategic renewal in response to changing market and environmental conditions (Eisenhardt and Martin, 2000; Teece, 2007; Lichtenthaler, 2022). Rather than relying solely on the possession of valuable resources, sustainable competitiveness increasingly depends on the ability of firms to continuously adjust organizational processes, reconfigure operations and respond effectively to uncertainty and disruption (McDougall *et al.*, 2022).

Within the transport sector, competitiveness is influenced by persistent operational challenges including fluctuating fuel prices, technological disruptions, infrastructure limitations, regulatory changes and evolving customer expectations (Rodrigue, 2016; UNCTAD, 2022). Prior studies indicate that transport firms often rely on adaptive operational practices, technology utilization, strategic collaboration and organizational learning to improve efficiency, maintain service reliability and respond to changing market conditions (Ssekiziyivu *et al.*, 2023; Ahimbisibwe *et al.*, 2024; Ssekiziyivu *et al.*, 2025a). In developing-country contexts, these adaptive organizational mechanisms become particularly important because firms operate under conditions characterized by uncertainty, resource constraints and institutional volatility (Ecel *et al.*, 2025).

Although previous studies have examined competitiveness and sustainability within transport and related sectors, limited research has explored how organizational capabilities emerge and operate within road transport firms in developing economies. Existing transport studies have largely focused on infrastructure development, transport policy, environmental

sustainability and operational efficiency at macro and industry levels (Shah *et al.*, 2021; Ahmad *et al.*, 2024; Ssekiziyivu *et al.*, 2024; Kottala *et al.*, 2025), with less attention devoted to firm-level organizational processes and managerial responses that sustain competitiveness over time. This study therefore contributes by exploring how transport firms develop adaptive organizational mechanisms that support sustainable competitiveness within volatile operating environments.

3. Methodology

3.1 Research design

The study adopted an exploratory qualitative research design using semistructured interviews. This approach was chosen because it enables researchers to explore complex phenomena in depth, capturing the lived experiences, perceptions and practices of senior managers in their natural context (Creswell, 2013).

3.2 Sample, sampling technique and procedure

The study focused on road transport firms that were registered and licensed by the Ministry of Works and Transport (MoWT) to operate within Uganda, ensuring that the sampled companies were legally recognized and actively engaged in road transport operations. A purposive sampling technique was used to select participants who were knowledgeable about the firm's strategic processes and decision-making practices. A sample of 21 respondents from 7 transport companies were chosen to participate in the study. The target respondents included senior managers and directors because they were best positioned to provide detailed insights into organizational practices (Ssekiziyivu *et al.*, 2023). The unit of analysis was the road transport firm, while the unit of inquiry was the senior manager responsible for strategic decision-making within the firm.

Table 1 shows that most of the respondents were male, aged between 28 and 59 years and their educational levels ranged from uganda certificate of education (UCE) to master's degrees. Most participants had substantial industry experience, with several reporting more than 10 years in managerial or operational roles. The firms represented operated along major national and cross-border routes including Western, Eastern, Northern, Central, West Nile and regional corridors ensuring a broad understanding of operational contexts within the road transport sector.

3.3 Data collection

Semistructured interviews were the primary data collection method. The interview guide contained open-ended questions designed to elicit in-depth insights into how managers sense environmental changes, seize opportunities and transform organizational processes to sustain competitiveness (Miles and Huberman, 1994). Interviews continued until saturation was reached. Each interview lasted approximately 40–60 min. Probing questions were used to capture detailed explanations of practices and decision-making processes (Ssekiziyivu *et al.*, 2025a). All interviews were conducted at the participants' workplaces at their convenience. With their consent, audio recordings and field notes were taken to ensure accurate data capture, in compliance with the Uganda Data Protection and Privacy Act (2019). To enhance credibility, within-case data source triangulation was applied by collecting information from more than one respondent within each transport firm to validate and corroborate emerging insights.

Table 1. Respondents' characteristics

Firm category	Participant no.	Position	Age	Gender	Education	Experience	Route
Bus	P1	Director	59	Male	Bachelors	29 years	Western
	P2	Finance manager	38	Male	Bachelors	8 years	Western
Bus	P3	General manager	41	Male	Bachelors	12 Years	Western
	P4	General manager	43	Male	Bachelors	9 Years	Across boarder
Bus	P5	Operation manager	33	Male	UCE	5 years	Across boarder
	P6	General manager	48	Male	Diploma	15 years	Eastern
Bus	P7	Operation manager	42	Male	Masters	10 years	Eastern
	P8	Director	56	Male	UCE	25 years	West Nile
Bus	P9	Operation manager	28	Female	Bachelors	8 years	West Nile
	P10	Finance manager	32	Male	Bachelors	6 Years	Northern
Bus	P11	Human resource manager	42	Male	Diploma	12 Years	Northern
	P12	Operation manager	44	Male	Bachelors	10 years	Northern
Bus	P13	Operation manager	44	Male	Diploma	6 Years	Central
	P14	Senior driver	49	Male	UCE	27 years	Central
Commuter	P15	Human resource manager	42	Male	Diploma	8 years	Central
	P16	General manager	30	Male	Bachelors	15 years	Central
Commuter	P17	Finance manager	39	Male	Bachelors	6 Years	Central
	P18	General manager	38	Male	Bachelors	8 years	Central
Commuter	P19	Operation manager	36	Male	Diploma	6 Years	Central
	P20	General manager	47	Male	Diploma	12 Years	Central
	P21	Operation manager	41	Male	Diploma	9 years	Central

Source(s): Authors' own work

3.4 Data analysis

The analysis followed an inductive approach consistent with the Gioia methodology, where conceptual categories emerged progressively from participants’ narratives rather than being imposed *a priori* from existing theory (Gioia *et al.*, 2013). Initial open coding generated first-order concepts closely reflecting participants’ own language and experiences. Analytical memos were continuously developed to capture emerging interpretations, relationships and conceptual reflections throughout the coding process (Corbin and Strauss, 2015). Through constant comparison and axial coding, related concepts were grouped into second-order themes before being distilled into aggregate dimensions explaining how transport firms sustain competitiveness (Gioia *et al.*, 2013; Charmaz, 2014). Theoretical saturation was reached when additional interviews no longer generated substantively new insights regarding firms’ competitiveness practices and adaptive responses.

4. Findings

4.1 How road transport firms sustain competitiveness?

The analysis inductively revealed three aggregate dimensions through which road transport firms sustain competitiveness. These dimensions emerged from participants’ experiences and organizational practices before later being theoretically interpreted through the lens of Dynamic Capabilities Theory as indicated in Figure 1.

4.1.1 Sensing capabilities. The following subthemes were derived to show how transport firms sustain competitiveness through sensing.

4.1.1.1 Environmental scanning. Senior managers actively scan their operating environment and adjust quickly their operations to suit in the changing environment. One participant stated: “[...] We track fuel costs and adjust ticket prices immediately when prices fluctuate. This prevents losses and ensures we remain competitive” (P4). Another participant P1 also mentioned that:

[...] during festive seasons like Christmas and Easter seasons, the demand is too high for our vehicles going up country yet the return journeys are always with limited numbers. So, we always double the cost of traveling up country to compensate for losses from return journeys.

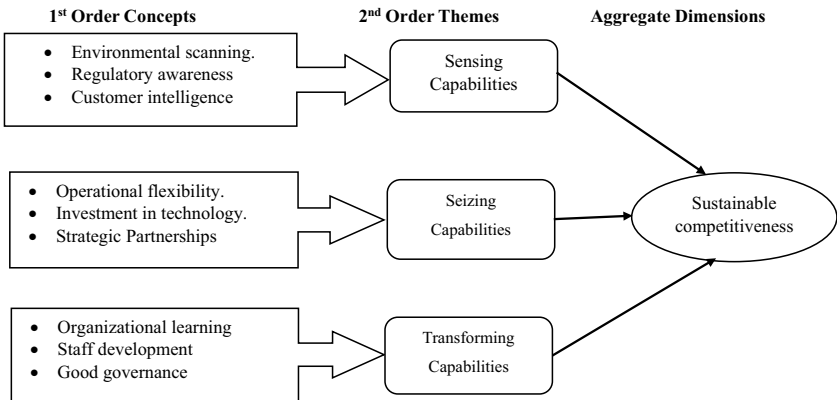


Figure 1. Emergent data structure illustrating how road transport firms sustain competitiveness
Source: Authors’ own work

The above narratives mean that continuous monitoring of market conditions enables transport firms to make timely operational adjustments that preserve their competitiveness.

4.1.1.2 Regulatory awareness. Participants emphasized awareness of licensing rules and traffic regulations to avoid being pushed out of business due to noncompliance. For instance, participant P7 mentioned that “[...] When new government policies were introduced, we quickly realigned our routes and schedules to remain compliant.” Another participant 16 mentioned that “[...] to avoid too much penalty costs from the traffic police, we sensitize our drivers on the new and existing laws they must follow to avoid penalties.”

Such excerpts mean that firms closely track regulatory requirements and adjust their practices accordingly to ensure smooth operations and avoid disruptions.

4.1.1.3 Customer intelligence. Firms regularly collect customer feedback to understand preferences and respond to it. For instance, participant P12 mentioned that “[...] our passengers like local music from our local musician. When you play it, you see them when they are happy and keep using your taxi frequently.”

Another participant (P4) illustrated the firm identified passengers’ preference for quiet night travel and consequently adjusted its service policy: P4 mentioned that:

[...] we realized that during night time, passengers want to sleep and don’t like anything disturbing their minds. So, we made it a policy to switch off TV and close curtains in the buses to allow our customers rest.

From the above excerpts, it is clear that firms use customer intelligence to anticipate and respond to passenger needs, enhancing satisfaction and repeat patronage.

4.2.2 *Seizing capabilities*. Seizing entails mobilizing resources to capitalize on identified opportunities. The following sub themes indicate how transport firms seize opportunities to sustain competitiveness.

4.2.2.1 Operational flexibility. Operational flexibility emerged as a critical capability enabling transport firms to respond to dynamic market conditions. Firms continuously adjust fleet deployment, vehicle types and operational practices to match fluctuating demand and optimize costs. For example, an operations manager (P2) explained; “[...] We redirect our buses to busy routes in peak seasons to maximize occupancy.”

Similarly, Participant P14 emphasized decisions based on vehicle maintenance and cost efficiency. P14 had this to say:

[...] we decided to concentrate on using Toyota Hiace vehicles due to their affordable spare parts and maintenance costs. Previously, we were buying Chinese vehicles because they were cheap, but their spare parts were too expensive.

From these narratives, it is evident that operational flexibility allows firms to seize opportunities by strategically reallocating fleets, selecting cost-efficient vehicles and optimizing operations to capitalize on market demand and reduce costs, thereby enhancing competitiveness in a volatile transport sector.

4.2.2.2 Investment in technology. Transport firms strategically invest in technology to ensure efficiency, revenue optimization and operational control. For example, Participant P9 noted; “[...] Our mobile app allows passengers to book and pay online, reducing queues and improving revenue tracking.” Similarly, Participant P3 explained that:

[...] We track our vehicles to ensure that drivers remain on the agreed route chart. If you don’t follow them up, they misuse your vehicle, leading to breakdowns and lower funds collections.

Such excerpts show that technology investment enables firms to seize operational advantages by monitoring performance, minimizing losses and optimizing resource use.

4.2.2.3 Strategic partnerships. Transport firms also engage in strategic partnerships to seize cost-saving opportunities and enhance operational reliability. For instance, participant P14 revealed that; “[...] We have agreements with fuel stations for discounts and garages for priority maintenance.” Such collaborations allow firms to access more affordable fuel and quicker servicing, directly improving efficiency and reducing downtime. Similarly, Participant P11 highlighted a deliberate partnership with a major vehicle service provider. P11 mentioned that:

[...] our company has a partnership with Toyota Uganda, who are the giants in maintaining Toyota cars. We agreed with them to be the sole providers and maintenance of all our fleet vehicles. They supply us spare parts at a relatively lower price compared to others on the market.

The above narratives show that transport firms leverage strategic partnerships to capture cost advantages, secure reliable maintenance services and stabilize operational performance.

4.2.3 *Transforming capabilities*. The following subthemes indicate how transport firms reconfigure internal structures and routines to sustain long-term competitiveness.

4.2.3.1 Organizational learning. This emerged as a key mechanism through which firms transform their routines and enhance operational performance. For instance, Participant P5 illustrated how firms draw lessons from past failures to strengthen processes: P5 revealed that “[...] We now conduct weekly vehicle inspections after past breakdowns; it has reduced incidents significantly.” This shows a deliberate effort to embed learning into routine practices, reducing risk and improving efficiency. In addition, learning also occurs informally through peer interactions within the transport ecosystem. Participant P19 explained “[...] Though we are competing in business, we are a family in this park. When I identify something good for all of us, I share it with my competitors.”

Such narratives mean that organizational learning enables firms to continuously transform their practices, build resilience and improve their responsiveness to operational challenges.

4.2.3.2 Staff development. Many firms invest in ongoing training, mentorship and skills enhancement to ensure that employees are equipped to meet performance expectations and adapt to changing work environments. For instance, participants described initiatives such as refresher trainings for drivers, customer service coaching and routine capacity-building sessions aimed at improving operational discipline and safety standards. For example, participant P11 revealed that “[...] our quarterly training improves safety, route management and customer service.” Through such deliberate efforts, firms cultivate a more competent and reliable workforce, which in turn reduces operational errors, enhances service quality and strengthens overall performance.

4.2.3.3 Good governance. Several transport firms have adopted formal governance structures to strengthen oversight, enhance accountability and guide strategic decision-making. For instance, Participant P1 mentioned that; “[...] Our management committee meets monthly to review performance and adjust strategies.” Regular committee meetings ensure continuous monitoring of operations and provide a structured forum for evaluating challenges and refining strategic actions. Similarly, Participant P14 highlighted the role of higher-level oversight within their firm. P14 revealed that; “[...] we have a board of directors which sits every 3 months to evaluate progress and strategic direction of the company. They always guide us in our operations.”

5. Theoretical interpretation through Dynamic Capabilities Theory

Although the aggregate dimensions emerged inductively from participants’ narratives, the findings align closely with the sensing, seizing and transforming dimensions of Dynamic Capabilities Theory (Teece, 2007). The findings therefore provide empirical insights into

how dynamic capabilities manifest within volatile and resource-constrained road transport environments. Rather than treating these capabilities as predetermined analytical categories, the study inductively reveals how they emerge through organizational practices and managerial responses to environmental turbulence.

5.1 Sensing capabilities

The findings indicate that road transport firms continuously monitor and interpret changes within their operating environment to sustain competitiveness. Environmental scanning, regulatory awareness and customer intelligence emerged as important organizational mechanisms through which firms identify market opportunities, anticipate disruptions and adjust operational strategies. Managers reported closely monitoring fuel price fluctuations, transport regulations, customer preferences and seasonal travel patterns to guide decision-making and maintain operational stability. These findings align with the sensing dimension of Dynamic Capabilities Theory, which emphasizes the identification and interpretation of opportunities and threats in rapidly changing environments (Teece, 2007).

5.2 Seizing capabilities

The study further demonstrates that transport firms strategically mobilize resources and operational practices to capitalize on identified opportunities and respond to emerging challenges. Operational flexibility, technology investment and strategic partnerships emerged as central mechanisms through which firms enhance efficiency, reduce operational costs and improve service reliability. Firms reported reallocating fleets to high-demand routes, adopting mobile booking and vehicle tracking technologies and partnering with fuel stations and vehicle maintenance providers to strengthen operational performance. These findings reflect seizing capabilities, which involve the strategic deployment and coordination of organizational resources to capture value from emerging opportunities (Teece, 2007).

5.3 Transforming capabilities

The findings also reveal that firms continuously reconfigure organizational routines, structures and practices to sustain long-term competitiveness. Organizational learning, staff development and governance mechanisms emerged as important transforming capabilities supporting operational resilience and continuous improvement. Managers emphasized learning from past operational failures, conducting regular staff training and strengthening governance oversight through management committees and board structures. These findings correspond with the transforming dimension of Dynamic Capabilities Theory, which emphasizes the continuous renewal and reconfiguration of organizational resources and capabilities in response to environmental change (Teece et al., 1997; Teece, 2018).

5.4 Extending Dynamic Capabilities Theory in a resource-constrained transport environments

The study contributes to Dynamic Capabilities Theory by demonstrating how capability development manifests within informal, resource-constrained and institutionally volatile transport environments. Unlike many studies conducted in developed-market contexts, the findings reveal that competitiveness among transport firms is sustained not only through technological adaptation, but also through operational improvisation, informal learning, relational partnerships and governance routines. The study therefore extends existing dynamic capabilities scholarship by illustrating the context-specific ways through which

6. Discussion

The findings of the study demonstrate that road transport firms sustain competitiveness through adaptive organizational practices that enhance responsiveness, operational efficiency, learning and resilience in volatile environments. The study reveals that firms continuously monitor environmental changes, strategically mobilize resources and reconfigure internal operations to maintain long-term competitiveness amidst regulatory uncertainty, fluctuating operational costs, technological disruptions and evolving customer demands. These findings reinforce prior arguments that competitiveness in turbulent environments depends not merely on possession of valuable resources, but on the firm's ability to continuously adapt and renew organizational capabilities ([Eisenhardt and Martin, 2000](#); [Teece, 2018](#)).

The findings further indicate that environmental scanning, regulatory awareness and customer intelligence are critical mechanisms through which transport firms anticipate operational disruptions and respond proactively to changing market conditions. Managers emphasized continuous monitoring of fuel price fluctuations, seasonal travel patterns, customer preferences and government regulations to guide operational decisions and maintain service reliability. These findings are consistent with [Rodrigue \(2020\)](#), who argued that transport firms operating in dynamic environments must continuously gather and interpret environmental information to enhance operational responsiveness. Similarly, [Ssekiziyivu et al. \(2023\)](#) observed that transport firms that actively monitor regulatory and market changes are better positioned to adjust operations and sustain performance under volatile conditions.

The study also demonstrates that operational flexibility, technology investment and strategic partnerships significantly enhance competitiveness among road transport firms. Firms reported reallocating fleets to high-demand routes, adopting mobile booking systems and vehicle tracking technologies and collaborating with fuel stations and maintenance providers to reduce operational costs and improve efficiency. These findings align with [McDougall et al. \(2022\)](#), who emphasize that technological adaptation and operational flexibility improve organizational resilience and efficiency within transport and logistics systems. Similarly, [Ahimbisibwe et al. \(2024\)](#) argued that innovation capabilities strengthen competitiveness among Ugandan firms by enabling organizations to improve efficiency, adaptability and customer responsiveness. In addition, the findings reveal that organizational learning, staff development and governance practices play an important role in strengthening long-term competitiveness. Managers emphasized learning from operational failures, conducting regular staff training and strengthening oversight through management committees and board structures. These findings support [Singh et al. \(2019\)](#), who argue that continuous staff development enhances organizational adaptability and operational performance. Likewise, [Ssekiziyivu et al. \(2025a\)](#) observe that organizational learning enables transport firms to improve service delivery, operational discipline and strategic responsiveness. The findings further reinforce the importance of governance mechanisms in improving accountability, coordination and strategic decision-making within organizations ([Ssekiziyivu et al., 2018](#)). Unlike many previous studies conducted in developed-market contexts, the current study demonstrates that sustainable competitiveness within developing-country transport sectors is achieved not only through formal technological capabilities, but also through informal learning processes, operational improvisation, relational partnerships and adaptive governance routines. These findings therefore provide context-specific insights

into how firms operating in resource-constrained and institutionally volatile environments sustain competitiveness despite persistent uncertainty and operational challenges.

7. Conclusion and implications

The study concludes that sensing, seizing and transforming capabilities are central to sustaining competitiveness among road transport firms in Uganda. These findings also confirm that the competitiveness of road transport firms is shaped not only by infrastructure or market conditions but by deliberate development and deployment of firm-level capabilities. The results reinforce the DCT, highlighting the importance of continuously reconfiguring resources and processes to match environmental dynamism.

Theoretically, the study extends prior research in the road transport sector by demonstrating how sensing, seizing and transforming capabilities jointly support competitiveness in resource-constrained and volatile environments. Moreover, the study highlights how dynamic capability as critical mechanisms through which sustainable competitiveness is achieved, thereby bridging the gap between theoretical constructs and practical firm-level application and offering nuanced insights into the context-specific operation of dynamic capabilities in emerging markets.

Policymakers like MoWT and KCCA should boost road transport competitiveness by partnering with transport associations to enhance sensing through data systems, seizing via incentives for technology and partnerships and transforming through continuous learning and flexible governance. These efforts should be supported by adaptive regulations and tracked using indicators like technology adoption, fleet efficiency, service reliability, safety and environmental performance aligned with national goals and SDGs 8 and 9.

8. Limitations of the study and areas for further research

The study focused on road transport firms in Uganda, limiting generalizability and relied on qualitative interviews that may reflect respondent bias. Future research should use mixed methods to quantify impacts, explore other transport modes and regional comparisons and examine the role of digital innovations and public-private partnerships in enhancing competitiveness. Future studies may adopt also longitudinal qualitative approaches to examine how organizational capabilities evolve over time within transport firms. Comparative studies across East African countries may further reveal how institutional contexts shape competitiveness and capability development.

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