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External Task Environmental Factors and Competitive Advantage in Retail Pharmacies in Nairobi County, Kenya

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ABSTRACT

Purpose: The purpose of this research was to determine the influence of external task environmental factors on competitive advantage in retail pharmacies in Nairobi.

Methodology: The study was grounded on the Technology, Organization, and Environment (TOE) framework and adopted post-positivism as the research philosophy. A quantitative approach was used, and primary data were collected through a structured, digitally administered questionnaire. The study targeted 365 registered retail pharmacies that had more than one branch. Stratified random sampling was used to select a sample of 170 pharmacies, and a total of 162 valid responses were received, resulting in a 95% response rate. Data analysis was conducted using Spearman's rank correlation, chi-square tests, and ordinal logistic regression. **Findings:** The study established no significant relationship between environmental factors and competitive advantage across all statistical tests. The study concluded that while environmental task factors did not show consistent or significant influence on competitive advantage, individual-level factors, such as innovativeness and IT knowledge played a decisive role.

Unique Contribution to Theory, Practice and Policy: The study recommends future research on other actors in the pharmaceutical value chain, including distributors and manufacturers, to expand understanding of e-commerce impact. It also recommends further investigation into cultural dimensions using alternative approaches. The findings are expected to support evidence-based decision making for pharmacy owners, digital transformation policymakers, and stakeholders advancing Kenya's Vision 2030, the Bottom-Up Economic Transformation Agenda (BETA), and the Sustainable Development Goals (SDGs).

Key Words: *External Task, Environmental Factors, Competitive Advantage, Retail Pharmacies*

Background of the Study

In today's global economy, organizations strive to establish robust competitive positions (Mugo & Macharia, 2020). However, competition in the modern world is exceedingly dynamic and complex. This complexity leads to rapid impacts or even the erosion of companies' competitive advantages due to new technologies, products, shifts in market boundaries, advancements in manufacturing processes, and innovative management concepts (Kazemi, Heshmat, Nazarian & Tomášková, 2024). The concept of competitive advantage was first developed by Michael Porter in 1985 where he argued that how a firm is positioned within the relevant industry determines whether its profitability is above or below the industry average. Porter (1985) argued that all firms within a particular industry aim to create and sustain a competitive advantage and are consistently looking into the external environments for opportunities and threats while examining internally for strengths and weaknesses. In today's fiercely competitive business landscape, organizations must embrace disruptive technologies to remain viable in the market. It's imperative for the retail pharmaceutical industry to integrate suitable e-commerce technologies to gain a competitive edge, improve business operations, end-to-end supply chain, and enhance overall performance (Iftikhar, Vistro & Mahmood, 2021). Over the past two decades, e-commerce has grown rapidly, and today it has become a key focus for governments, private companies, NGOs, and retailers alike. Many are turning to digital platforms as a way to stay competitive and keep up with changing customer needs and market trends (Zahra, Dhewanto & Utama, 2021).

In Kenya, the pressure for firms to remain competitive and relevant has heightened the need for adopting current technologies. According to Irungu and Arasa (2017), firms must leverage modern technologies as a deliberate strategy to stay ahead of potential competitors. Kiveu et al. (2019) emphasized that implementing innovative technologies, particularly among SMEs, contributes significantly to building competitive advantage. However, Wali et al. (2023) noted that for e-commerce firms to perform and compete effectively, they must first establish a strong foundation of technological preparedness. In this regard, digital tools are now being adopted to enhance supply chain management, customer relationship management, and strategic partnerships—all of which are emerging as critical sources of competitive advantage for firms in Kenya (Gichuki & Kihara, 2018).

Statement of the Problem

The retail pharmaceutical industry is changing fast around the world. Studies show that companies using e-commerce do better by improving how they run their business, reaching more customers, and boosting profits (Porter, 1985; Bowman & Asch, 1996). In North America and Europe, businesses have seen profits rise by as much as 50% when they adopt digital tools (Fedewa et al., 2023). According to Pasquali (2023), value of global e-commerce in retail is expected to grow from USD 5.2 trillion in 2021 to USD 9.4 trillion by 2026. In Asia and Latin

America on the other hand, e-commerce has helped many firms grow, although issues like data security and unclear rules still exist (Iftikhar et al., 2021). In Africa, with only about 43% overall internet usage (Internet World Stats, 2023), e-commerce can potentially increase access to healthcare by 20% in areas that need it most. Nairobi, as Kenya's key economic center, reflects these global trends but also faces its own local hurdles due to urban challenges and evolving regulations (Ntwiga, Muchara, & Kiriri, 2021). Key factors for successful e-commerce adoption in retail pharmacies include technology, organization, and the external environment (Odhiambo et al., 2022). Technological factors such as the clear benefits of new systems, ease of use, and costs are very important; research shows that using technology can improve access to medicines by 34% and raise profitability by up to 15% (Awa et al., 2015; Kim et al., 2023). Organizational factors such as the size of the pharmacy, the support from its leaders, and how ready the organization is to adopt new methods also matter a great deal (Odhiambo et al., 2022; Mwangi et al., 2021). External factors, like stable infrastructure and clear rules, are critical too, though their influence may differ depending on local conditions (Osei-Frimpong et al., 2021). Recent studies also point out that an organization's culture, its attitude towards change and its focus on customers, can help maximize the benefits of e-commerce (Chang et al., 2021; Akter et al., 2022).

Despite the known benefits of the adoption of digital tools, retail pharmacies in Nairobi face many obstacles in using e-commerce fully. These pharmacies often struggle with high costs for technology and the complexity of setting up and maintaining digital systems (Kim et al., 2023). Nairobi's own problems, such as unreliable high-speed internet, frequent power outages, and heavy traffic that delays deliveries, make it even harder to run smooth online operations (Okeke et al., 2023; Odhiambo et al., 2022). In addition, unclear regulatory rules add legal and business risks for those trying to go digital (Osei-Frimpong et al., 2021). Many pharmacies also deal with internal challenges, like low digital skills among staff and a company culture that is slow to embrace change (Mwangi et al., 2021; Chang et al., 2021). These issues, all linked to the factors of external environment, raise important questions about how a supportive culture can help Nairobi's retail pharmacies overcome these challenges and use e-commerce to secure a lasting competitive advantage. However, there is still lack of clarity regarding whether strategic e-commerce utilization such as external task environmental factors directly contributes to securing a competitive edge, necessitating further investigation to clarify this relationship.

While existing studies have explored the correlation between competitive advantage and e-commerce adoption in SMEs, Telcos and the banking sector (Ntwiga, Muchara, & Kiriri, 2021), a critical contextual gap exists regarding the examination of external task environmental factors within the retail pharmaceutical sector in Nairobi. This research therefore seeks to fill this significant gap by examining external task environmental factors and competitive advantage in retail pharmacies in Nairobi. The results of the study will be useful for the pharmaceutical managers/owners, key actors within the pharmaceutical industries and the regulators including pharmacy and poisons board who seek to advance healthcare system sustainability and digitization.

Hypothesis of the Study

H_{03}: External Task Environmental factors have no significant statistical influence on competitive advantage in retail pharmacies in Nairobi.

Literature Review

Theoretical Review

Technology, Organization and Environment Framework (TOE)

The Technology, Organization, and Environment (TOE) framework was developed to clarify the major organizational choices that guide how innovations are adopted. According to this framework, technological advances should be evaluated within the context of an organization because implementing them typically demands appropriate resource allocation and mobilization. In addition, factors in the external environment such as government regulations, taxation policies, and industry standards significantly affect how innovations are embraced. The framework defines technology as a means to boost productivity within firms and considers innovation to be the process of incorporating new technologies into operations. However, once such technology becomes part of everyday practice, it is no longer seen as an innovation. The TOE model outlines three main areas that shape adoption: the technological aspect, the organizational aspect, and the environmental aspect (Tornatzky & Fleischer, 1990). Firms operate within a dynamic and often unpredictable external environment, characterized by turbulence and high levels of uncertainty (Turban et al. 2015). The macro-environment includes factors such as the industry context, the presence or absence of technology and innovation providers, and regulatory frameworks. For instance, industries experiencing rapid growth are typically more open to adopting new technologies compared to those in more mature or declining phases of the industry life cycle (Tornatzky & Fleischer, 1990). Additionally, government regulations, both existing and emerging, play a significant role in shaping an organization's capacity to adopt innovations, as they can either facilitate or hinder the process. Together, these external factors help determine the opportunities and limitations that influence whether and how an organization can successfully integrate new innovations.

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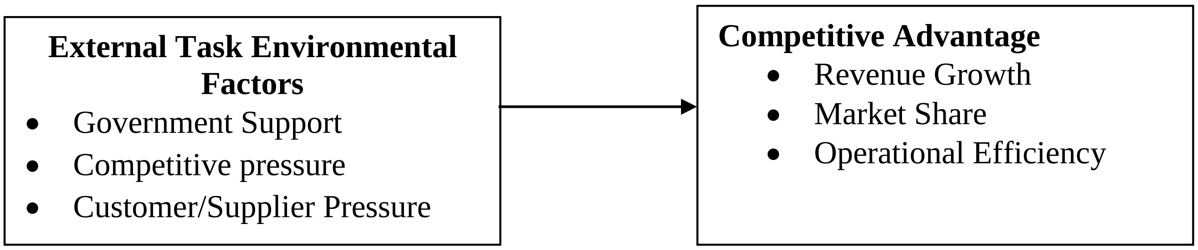
Conceptual Framework



Independent Variable **Dependent Variable**

External Task Environmental factors

Efraim Turban et al., (2015), stated that the adoption of e-commerce by firms is influenced by the ever-changing environmental factors such as government support and competitive pressure. It's through the organization's response to these environmental factors that would enable it to remain adaptive and maintain its competitive advantage. Tassabehji (2003) on the hand added that e-commerce adoption within the organization is majorly influenced by the macro environment, which is turbulent, unpredictable with a degree of uncertainty and relies on government support and competitive factors to determine the organization's competitive advantage. According to Mahakittikun et al., (2020), there is a significant positive relationship between competitive pressure and competitive advantage adding that it's through these pressure that a firm would determine whether to use cost leadership, differentiation or focus strategies to gain sustainable competitive advantage. The authors added that the firm should ensure that the benefits of the strategy outweigh the risks before its adoption. Awiagah et al., (2016) on the other hand added that government support played a critical role in a firm's competitive advantage stating that governments that fostered an enabling environment through policies encouraged the adoption of e-commerce hence enhancing competitive advantage within the retail sector. Other factors such as the provision of infrastructure as well as favorable laws that would enhance e-commerce adoption would result in gaining competitive advantage since the firm would choose any of the three generic strategies to gain above average returns.

Competitive Advantage

A dependent variable represents the primary outcome that a researcher seeks to explain or predict. Saunders et al. (2019) explain that a researcher's objective is to examine how these variable changes or can be predicted based on the influence of the independent variables. It reflects the effects or results that occur due to the influence of one or more independent variables. In this study, competitive advantage serves as the dependent variable, representing the performance outcome influenced by e-commerce adoption factors. Competitive advantage can be viewed as the firm's position within a competitive market. All firms aim to create and sustain a competitive advantage and are consistently looking into the external environments for opportunities and threats while examining internally for strengths and weaknesses. Porter (1985) defined competitive advantage as the unique position that a company or organization establishes in its industry or market, which allows it to outperform its competitors and generate superior financial returns over the long term. Porter argues that competitive advantage is the result of a company effectively utilizing its available resources, capabilities, and core competencies in a way that creates value for customers and differentiates the company from its rivals.

According to Bowman and Asch, (1996), the core of an organizational strategy is formed through a clear plan of sustainable competitive advantage since it determines the choices an organization needs to make in terms of where to compete and how competitive advantage can be gained in these markets. Njoroge (2019) notes that internet and technology have advanced quickly in Kenya, leading many firms to adopt e-commerce as an effective way to conduct their operations. However, majority of the business especially within the retail sectors are yet to understand how, through e-commerce adoption, they can gain and sustain competitive advantage. At the moment, firms within the retail sector do own computers but are focused on using the bare minimum applications such as point of sale to track their inventory or services offered (Njoroge, 2019), with no additional capability on how they would increase their market share, conduct expansion activities or even cut on operational costs. This study operationalizes revenue growth, market share and operational efficiency as components of competitive advantage.

Empirical Review

External Task Environment

Changes in the external environment require firms to consistently conduct thorough environmental analyses in order to stay ahead of the competition (Jaya et al., 2021). Numerous studies have underscored the importance of external factors such as government support, through robust infrastructure and clear policy frameworks, and competitive pressure in helping firms sustain their competitive advantage. According to Jaya et al. (2021), in-depth analysis of external task environmental factors; competitive pressure, government support, customer/ supplier pressure, is vital for identifying both emergent threats and unexploited opportunities. Government support in particular through the facilitation of reliable digital infrastructure and clear policy guidelines, creates an enabling environment where firms can thrive and integrate advanced technologies like e-commerce effectually. Additionally, Jaya et al. (2021) emphasized that proactive engagement with these external forces enables firms to adapt quickly, thereby maintaining a strong market position. Equally important is the persistent force derived from competitive pressure which serves as a powerful external push, driving companies to continuously re-evaluate their value propositions to the end consumers, streamline their internal operations, and accelerate innovation adoption. Similarly, Jensen (2021) argues that competitive pressure acts as a catalyst, compelling companies to continuously innovate and refine their offerings to capitalize on relative advantages. The dynamism of modern markets necessitates that firm's move beyond reactive strategies, embedding continuous environmental scanning into their core operations. Businesses that actively monitor these external market changes and strategically acclimate their business models are better placed to leverage their unique strengths and maintain a robust market presence.

While several studies affirm the positive impact of external environmental factors on competitive advantage, there are contrasting findings. In a study conducted in Egypt, Shehata and Montash (2019) used questionnaires to gather data from 302 firms across various industries and discovered a significant negative relationship between environmental factors and competitive advantage in the context of e-commerce adoption. According to the findings of the study, external factors might sometimes impede competitive progress, perhaps due to rigid regulatory frameworks or other market constraints that hinder the flexible adaptation of e-commerce strategies. Additionally, the study provides a critical contrast, demonstrating that external task environmental factors may not always be clear enablers of competitiveness; they can, in fact, employ an unfavorable influence on a company's competitive trajectory. According to Shehata and Montash (2019), the significant negative relationship between external task environmental factors and competitive advantage within a firm implies that there are particular factors within the external environment which actively create friction and barriers for companies trying to leverage e-commerce for competitive advantage. Based on the findings, the restrictions often emanate from stringent and out of date regulatory frameworks that are unable to keep up with digital innovation, bringing about compliance issues or outright restraining the agile execution of online strategies. Moreover, prevalent market restrictions such as immature digital infrastructure, poor internet connectivity, or deeply entrenched consumer distrust in online payment systems can critically limit a company's capability to effectually utilize e-commerce.

These divergent findings suggest that the influence of external environmental factors on competitive advantage is highly context dependent. While studies like those by c and Jensen (2021) highlight how government support and competitive pressure can foster innovation and responsiveness, contrasting evidence exists. According to Jaya et al. (2021), in situations where external task environmental factors, such as clear government support through accommodative policies and infrastructure or healthy competitive rivalry, foster an enabling ecosystem, companies are indeed driven towards greater innovation and dexterity, directly reinforcing their market position. For instance, Shehata and Montash (2019), in a study involving 302 firms from various industries in Egypt, found a significant negative relationship between environmental factors and competitive advantage in the context of e-commerce adoption. This implies that in environments with weak regulatory support or infrastructure, external factors may hinder rather than promote a firm's competitiveness. However, according to the findings, an external environment comprised of weak regulatory frameworks, immature digital infrastructure, or prevalent market restrictions can become a significant impediment. According to Shehata and

Montash (2019), in such environments, the anticipated forces envisioned to drive progress instead create very huge barriers, impeding a business's flexible adaptation of crucial strategies like e-commerce. As a result, the firms within rapidly evolving environments have to conduct rigorous environmental scans to identify opportunities and threats emanating from the systemic roadblocks. This capability to wade through the varying external challenges while adopting to realism is now a critical capability and strength of the firm in driving and sustaining competitive advantage.

1. **Competitive Pressure**

Competitive pressure has been widely examined as a key driver of competitive advantage across various industries and regions. Mahakittikun et al. (2020) investigated SMEs in Thailand, collecting data from 387 retail and service firms, and found that even a slight increase in competitive pressure was associated with a corresponding improvement in competitive advantage. This suggests that moderate competitive forces can push firms to enhance their performance. Additionally, any subtle changes in the competitive landscape within Thailand is more than enough to trigger firms to enhance their internal operations, improve their quality of service to the consumers or seek alternative methods to enhance efficiency as a result horning their competitive edge. As a result, based on this competitive pressure, there is continuous evolution within the firms.

A similar study by Fonseka et al. (2021) focused on how intense rivalry and the risk of customer defection affect competitive advantage among SMEs in Sri Lanka. Their research, which involved a sample of 350 senior managers, revealed a significant positive relationship, highlighting that firms respond to competitive pressure by adopting strategies that enhance market performance revealing that heightened competitive pressure forces the business to become more aggressive and adaptive to avoid being kicked out of the market. According to Fonseka et al. (2021) firms which undergo so intense pressure are automatically driven to invest in digital transformation, improve supply chains, enhance customer experience, and come up with unique value propositions. Therefore, competitive pressure can be viewed as a persistent catalyst, consistently pushing firms to innovate, conduct their processes in a more efficient manner, and while aligning their value proposition more closely with market demands, hence transforming possible threats into key drivers of competitiveness.

In Malaysia, Sin et al. (2016) confirmed a significant positive link between competitive pressure and competitive advantage among SMEs, noting that firms need to continuously respond to external pressure to avoid market shifts. The study had a sample size of 167 with respondents being CEOs and senior managers within the organization. The study findings demonstrate that a hands-on approach and continued response to market pressures is not only advantageous but vital for SMEs to remain relevant within the market and avoid closure brought about by obsolescence. Moreover, Ali and Bhasin (2019) extended these findings in a study of micro-agribusiness enterprises in China, where competitive pressure emerged as the strongest driver for competitive advantage, helping these enterprises increase their operational speed and customer outreach. This ongoing vigilance compels firms to innovate and adapt their business models. The findings further reveal that competitive pressure is a very strong catalyst for an organization to achieve competitive advantage.

Additionally, according to Ali and Bhasin (2019), smaller firms are more often that not, resource constrained and as such, intense rivalry propels them to radically improve their operational speed including streamlining processes and hastening response times, and significantly increase their customer scope through efficient, often digital, channels. The study suggests that competitive forces, irrespective of the size of the business, primarily drive the adoption of new proficiencies and market strategies, eventually determining their capability to thrive and achieve competitiveness within the dynamic and agile market environment. Setiyani and Rostiani (2021) also examined this relationship among SMEs in Thailand, with a specific focus on how competitive pressure motivates the adoption of e-commerce. The study focused on how competition has been a driving factor for e-commerce adoption and how that can enable the SME gain competitive advantage. The study used questionnaires for data collection and had 301 respondents from both the retail and service SMEs. The results showed that there was a significant positive relationship between competitive pressure and competitive advantage. Their findings further indicated that heightened competitive pressure leads to significant improvements in competitive advantage among these firms. The findings from the study depict that even the smallest shifts within the competitive landscape is sufficient to trigger businesses to take action on their internal operations while enhancing efficiencies to be ablet to maintain their competitive edge.

In Ghana, Ocloo et al. (2020) conducted research targeting SME owners, CEOs, and heads of technology within the manufacturing sector, and found that firms adopted e-commerce to counteract competitive pressure, thus maintaining their market position. Additionally, competitive pressure often acts as a key driver that pushes firms to adopt digital solutions not only to enhance their growth and market presence but also as a defense mechanism within the dynamic market environment. According to Ocloo et al. (2020), in a sectors such as manufacturing, where process efficiency, supply chain optimization, and the broader market access are key, e-commerce becomes a vital tool to maneuver through the threats emanating from more digitally advanced rivals or shifting market demands. Additionally, according to Ocloo et al. (2020), the adoption of online platforms enables businesses to streamline ordering processes, enhance their market reach beyond traditional distribution networks, and even try out selling directly to the customers, thereby reducing potential erosion of their existing market share. This hands-on adaptation, motivated by the imperative to counter competitive forces, reveals how e-commerce becomes an essential strategy for resilience and business continuity. The study findings further highlights that in competitive environments, taking advantage of digital technologies is not just about gaining new ground but essentially about safeguarding existing market presence.

In the manufacturing sector of Egypt, Hamad et al. (2018) conducted a study using a survey method to collect primary data from 768 randomly selected manufacturing firms. Out of these, 260 valid questionnaires were returned, representing a 33.9% response rate. The study found that competitive pressure had a significant relationship with competitive advantage, indicating that external market forces such as rivalry and changing consumer expectations can drive firms to innovate and adapt in order to remain competitive. This reinforces the idea that environmental factors, particularly competitive dynamics, can be key motivators for strategic change and performance enhancement. Additionally, large businesses view competitive pressure as a potential catalyst for achieving competitive advantage since the firms are forced to seek operational efficiencies, more refined production and distribution processes as they explore other avenues that would outperform their competitors. Additionally, according to Hamad et al. (2018), the ever-changing consumer expectations realized through demanding faster delivery, higher quality, or more tailored products, force businesses to adapt their operational models and adopt new technologies. This consistent pressure creates a constant cycle of innovation and strategic adaptation, requiring firms remain alert and highly responsive to market shifts. The study also brought out the fact that competitive forces act more like motivators to firms, pushing them to take on strategic changes that improve their performance and solidify their position within the market they operate in.

Reflecting the regional context in Kenya, Kabata and Maina (2022) investigated Kenyan banks and demonstrated that competitive pressure. The study targeted 32 retail outlets within the banking sector with a sample size of 96, which was majorly the senior managers. The findings indicated that competitive pressure, when combined with e-commerce adoption, helps maintain a sustainable competitive edge as long as the technology remains valuable and unique. Additionally, competitive intensity experienced within the market compels financial institutions to proactively adopt and integrate e-commerce into their operation. Additionally, according to Kabata and Maina (2022), the digital transformation, pushed forth by intense rivalry, enables banks to offer differentiated services to the customers, offer improved customer convenience, and streamlined operations, thereby attaining a competitive edge. However, this competitiveness is dependent on the constant evolution and apparent uniqueness of the adopted technology. A study by Ochola (2015), provided evidence from Kenyan SMEs that both customers and suppliers drive competitive pressure, and this pressure, in turn, significantly enhances competitive advantage. The findings revealed that competitive pressure within the Kenyan SMEs not only emanated from competition and business rivals but also from the ever-changing demands of the customers and strategic suppliers. This pressure emanating from multiple directions now becomes a key driver, compelling SMEs to innovate, improve efficiency, and improve their market receptiveness.

2. Government Support

Government support, both financial and non-financial, has been consistently found to play a crucial role in enhancing firms' competitive advantage, particularly through its influence on innovation and technology adoption. Songling et al. (2018), in a study conducted in Pakistan and Islamabad, demonstrated that accessible financial instruments, such as low-interest loans, alongside non-financial interventions like favorable policies, create a supportive ecosystem for SMEs. This, in turn, helps these businesses expand their operations, contribute to national GDP, and adopt innovations that enhance their competitive standing. Additional findings from the study revealed that the provision of financial support, for instance low interest loans, directly eases the capital limitations challenges often faced by SMEs, enabling these firms to invest in key technology and innovation without undue financial burden. Moreover, according to Songling et al. (2018), there are important non-monetary interventions such as clear and favorable policy frameworks, streamlined regulatory procedures, or even infrastructure development. Such non-financial interventions foster an enabling environment that decreases operational friction, encourages risk-taking, and promotes a culture of innovation. By reducing the cost and complexity related to adopting new technologies, governments can, in a significant way, hasten the pace of digital transformation among SMEs. Additionally, such comprehensive support from the government empowers firms not only to enlarge their operational scope and contribute in a big way towards national economic growth but, most importantly, to adopt cutting-edge innovations that primarily strengthens their competitive position within the local and global markets.

Empirical studies from various regions reinforce this link between government support and competitive advantage. In Thailand, Setiyani and Rostiani (2021) focused on how government would empower SMEs and other retailers with capacity building and infrastructure to adopt e-commerce and how that can enable the SME gain competitive advantage. The study used questionnaires for data collection and had 301 respondents from both the retail and service SMEs. The study found a significant positive relationship between government support and competitive advantage among SMEs. The findings highlighted the role of government in empowering SMEs through training initiatives and infrastructure expansion geared toward e-commerce adoption. Additionally, according to Setiyani and Rostiani (2021), significant positive relationship between government support and competitive advantage clearly brings out that strategic interventions by the government can directly empower firms. Importantly, the study highlighted a double-sided approach where capacity building to ensure that the SMEs have the adequate training and skills on the digital component and the provision of reliable internet infrastructure by the government would enhance the SME competitiveness. such tailored ingenuities create an ecosystem where SMEs can assuredly adopt and scale e-commerce operations, while expanding their market share, improving efficiency, and eventually outdoing less digitally integrated competitors.

One the other hand, Nguyen et al. (2022) examined the extent to which government support influences the adoption of online retailing. The study conducted through online questionnaires targeting 538 online retail stores out of which 325 were found to be valid. The study reported that government involvement in shaping and refining online retail policies, offering incentives, and providing training opportunities significantly motivates SMEs to adopt digital retailing solutions. The study findings further revealed that government support is not just about broad policy documentation but encompasses tangible, multi-pronged interventions. According to Nguyen et al. (2022), the strategic shaping and improvement of online retail policies by the government offers a crucial framework of legal clarity and certainty, imparting confidence in SMEs to navigate the intricacies of digital commerce without unwarranted regulatory uncertainty. More-so, the provision of targeted incentives by the government; whether through financial subsidies for e-commerce platforms or tax breaks for digital investments, directly decreases the financial blockades to entry and growth for SMEs, making the adoption of digital solutions a more attractive and possible effort. Additionally, robust capacity building opportunities empower the workforce with the necessary digital skills, bridging the knowledge gap that most often than not hinders successful online retailing.

The same trend is evident in China, where Ali and Bhasin (2019) showed that government initiatives, ranging from infrastructure development to financial and technical support, substantially contributed to competitive advantage in micro-agribusiness enterprises. The researchers emphasized that these forms of support enabled firms to adopt e-commerce practices that accelerated business growth and market expansion. The study revealed that, for micro-agribusinesses, often operating in rural and marginalized areas, government led initiatives in infrastructure development, such as enhanced internet connectivity, cold chain logistics, or better road networks, and directly lower operational barriers while enhancing market access. Additionally, according to Ali and Bhasin (2019), accessible financial support, and technical assistance equip these businesses with the required capital and knowledge to be able to successfully run their businesses. This all-inclusive approach by the government directly empowers the adoption of e-commerce practices, permitting these micro-enterprises to bypass traditional go-betweens, reach a larger client base, and enhance their supply chains. This therefore results in a significant acceleration in business growth and market extension, translating directly into enhanced competitive advantage.

In Ghana, Awiagah et al. (2016) conducted a study on how government support influences competitive advantage among SMEs in Ghana. The study used questionnaires to collect data from 105 SMEs. The study established that government support had the strongest positive relationship with competitive advantage among all the variables studied. The study findings brought out the importance of government-led policy reforms, more investment on the infrastructure, and legal frameworks that create an enabling environment for digital transformation. According to Awiagah et al. (2016), government support for SMEs plays a pivotal role in various ways: government-led policy reforms act as key drivers, streamlining rigid processes, offering fiscal enticements for technology adoption, and creating a foreseeable regulatory climate that decreases business risk. As a result, strategic infrastructure investments, such as increasing broadband internet access and developing scalable digital payment ecosystems, provide the crucial support upon which digital transformation can flourish. Additionally, well-crafted legal frameworks inculcate confidence by shielding intellectual property, enhancing data privacy, and offering clear guidelines for online transactions, thereby legitimizing the digital marketplace for both firms and consumers.

Similarly, Shehata and Montash (2019) sought to establish whether government support had an effect on competitive advantage when firms adopt e-commerce. The study had a sample of 302 firms from diverse industries and used partial least squares to analyze the data that was collected through questionnaires. The study found a strong positive relationship between government support and competitive advantage, stating that firms were more likely to adopt e-commerce when backed by favorable government interventions. The strong correlation based on the findings proposes that when governments contrivance favorable interventions, firms are significantly more persuaded to embrace digital retailing solutions. According to Shehata and Montash (2019), such interventions can comprise a range of measures, from offering direct financial incentives like subsidies or low-interest credits for digital infrastructure, to offering all-inclusive training programs that prepare SMEs with essential e-commerce skills. Additionally, the formation of clear and supportive regulatory frameworks, together with initiatives that build public trust in online transactions, greatly de-risks the shift to digital commerce for firms. By nurturing such an enabling environment, governments actively decrease barriers, unlock new prospects for market reach and operational efficiency through e-commerce, and hence directly contribute to the improvement of businesses' competitiveness in the digital economy.

Within the Kenyan context, Mugo and Macharia (2021) sought to establish whether Government laws and regulations had a significant positive effect on competitive advantage in Kenyan Telecommunications. The study targeted 26 Telcos and 247 managers working within these firms and data was collected through the use of questionnaires. The study concluded that government laws and regulations significantly impact competitive advantage. The study findings suggested that a regulatory environment that is aligned with innovation and digital growth is influential in helping businesses gain and maintain market leadership staying ahead of the competition. Additionally, according to Mugo and Macharia (2021), the study highlighted that a regulatory environment allied with innovation and digital growth is paramount. This arrangement can be through policies that facilitate equitable allocation, enhance fair competition, protect consumer data, and offer incentives to firms investing in next-generation technologies like 5G infrastructure. Such an enabling framework enhances telecommunication companies to quickly develop and deploy new services, eventually consenting them to expand and sustain market leadership. The study further elucidates that hands-on and forward-thinking governmental guidelines are critical for fostering a dynamic and competitive industry, pushing technological advancement and commercial achievements within the sector.

3. Consumer/ Competitive Pressure

Supplier and consumer pressure has increasingly been recognized as a critical component in shaping competitive advantage, especially in highly dynamic retail and service sectors. Zhang and Chung (2020), in their empirical study conducted in the United States, analyzed the daily deal market between 2017 and 2020. They found that intense online competition requires firms to negotiate favorable terms with suppliers to achieve cost leadership, which enables them to attract consumers to digital platforms. These demand-driven strategies were shown to significantly contribute to the development of competitive advantage. The study additionally found that intense online competition creates an imperative for companies to secure favorable terms with suppliers.

According to Zhang and Chung (2020), this deliberate supplier negotiation is critical for attaining cost leadership, which in turn enables organizations to offer highly attractive prices to the end consumer. Such pricing strategies are an attractive tool, directly aiding businesses to quickly attract consumers to their digital platforms by satisfying a core demand for value. Zhang and Chung (2020) outlined that these demand-driven strategies, where a business's operational and supply chain strategies are directly influenced by consumer choices and market changes, are not just reactive but are hands-on maneuvers that significantly drive towards building and sustaining competitiveness in the digital marketplace.

Supporting these findings, Feng et al. (2020) conducted a study in China conducted a study in China on supplier and consumer pressure on competitive advantage. The study used questionnaires to collect data from 139 manufacturing firms across different industries. The study confirmed a significant positive relationship between supplier and consumer pressure and competitive advantage noting that supplier involvement reduced operational costs, while active customer engagement led to improvements in product quality, flexibility, and service responsiveness—each a key component of a firm's competitiveness. Similarly, Distanont and Khongmalai (2020), sought to establish the relationship between innovation and competitive advantage with a focus on supplier and consumer pressure. The study was conducted in Thailand and focused on SMEs within the frozen food industry. The study used questionnaires to collect data from 115 firms and established that both supplier and consumer pressure positively influenced competitive advantage. Distanont and Khongmalai (2020), highlighted that although SMEs often lack bargaining power, building strong supplier relationships allowed them to negotiate better prices and reduce costs. Additionally, customer data collection and responsiveness helped the firms make informed decisions, enabling them to better meet consumer needs and expectations.

Contrasting these findings, Mhlanga (2018) conducted a study on fast-food restaurants in South Africa and found no significant influence of supplier pressure on competitive advantage. This was based on a study that was conducted in South Africa focusing on the fast-food restaurants. The study used questionnaires to collect data from 227 fast food restaurants and the target population was the restaurant personnel. More notably, consumer pressure had a negative impact. According to the study, the fast-paced and cost-sensitive nature of the fast-food industry limited firms' ability to respond effectively to consumer demands, often resulting in reduced competitive positioning.

In the Kenyan context, Mugo (2020) examined the effects of supplier and consumer bargaining power on the competitive advantage of telecommunication firms. Reviewing 10 studies conducted between 2014 and 2019, the research showed that while supplier bargaining power did not have a significant impact, consumer bargaining power was strongly associated with competitive advantage. The study emphasized that Kenyan consumers, empowered by choice and information, were quick to switch service providers in response to even slight improvements in service quality, placing continuous pressure on firms to innovate and remain responsive.

Research Methodology

This study is grounded in a post-positivist philosophical perspective. The study adopted a quantitative research approach within a post-positivist paradigm. The population comprised 365 retail pharmacies, with particular attention given to key leadership roles, including the owner or CEO, the head of ICT, and the head of operations or finance. This study employed probability sampling due to its suitability for generating statistically valid and generalizable results. A sample size of 190was derived using a formula suggested by Goldsmith and Yamane (1968). Semi-structured questionnaires were utilized to collect primary data. The study employed bith descriptive and inferential statistics.

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Inferential Statistics Results

External Environmental Factors

Table 1: Frequencies of factors that make up environmental factors

	Variable		Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
Competitive Pressure	Competitive pressure from other pharmacies has pushed us to innovate in our e-commerce approach	Count	0	0	0	113	49
		%	0	0	0	69.75	30.25
	Consumer drive for e-commerce solutions has shaped our strategy for achieving competitive advantage	Count	0	0	0	105	57
		%	0	0	0	64.81	35.19
	E-commerce adoption allows us to respond efficiently to competitive pressures enhancing our competitive edge	Count	0	0	0	81	81
		%	0	0	0	50	50
	Government opportunities supporting digital infrastructure have improved our ability to compete through e-commerce	Count	22	12	43	38	47
		%	13.58	7.41	26.54	23.46	29.01
	Government regulations have posed challenges that affect our ability to leverage e-commerce for competitive advantage	Count	0	10	20	73	59
		%	0	6.17	12.35	45.06	36.42
Consumer / Supplier Pressure	Pressure from suppliers to adopt enhanced e-commerce systems has positively influenced our competitive positioning	Count	11	24	9	88	30
		%	6.79	14.81	5.56	54.32	18.52
	The level of competition in the industry gears our efforts towards e-commerce adoption decisions to maintain a competitive advantage	Count	0	0	20	103	39
		%	0	0	12.35	63.58	24.07
	Our capability to satisfy changing consumer expectations through e-commerce has been a key factor in maintaining our competitive advantage	Count	0	0	12	95	55
		%	0	0	7.41	58.64	33.95

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Table 2: Correlation between environmental factors and competitive advantage.

Spearman's rank correlation rho	0.009
p-value	0.905

The analysis indicates a minimal and statistically insignificant positive correlation between environmental factors and competitive advantage, as shown by Spearman's rank correlation (ρ = 0.009, p = 0.905), suggesting that environmental factors have little to no meaningful influence on competitive advantage. Additionally, a very high p-value (0.905) clearly demonstrates that any observed, slight positive trend can be attributed to other factors within the external environment. The statistically insignificant relationship between the variables in the external task environment; competitive pressure, government support, consumer/ supplier pressure variations within the study do not systematically match with changes experienced in competitive advantage. The results suggest that while retail pharmacies operate within an external environment, the detailed environmental factors measured do not necessarily play a key role in achieving or sustaining competitive advantage within the retail pharmaceuticals.

Table 3: Chi Square test for significance

X-squared	2.512
Df.	2
p-value	0.28

The Chi-Squared test results ($\chi^2 = 2.512, \text{df} = 2, p = 0.28$) confirm that there is no statistically significant relationship between the environmental factors and competitive advantage. This implies that environmental factors and competitive advantage are not strongly linked suggesting that external factors do not significantly influence competitiveness in the retail pharmacies. The lack of a statistically significant relationship between the variables indicates that, when examined categorically, the distribution of competitive advantage outcomes does not have significant change when measured across the task environmental factors; competitive pressure, government support, consumer/ supplier pressure. The results therefore suggest that the external task environmental factors examined are either moderately stable or similar across the sampled pharmacies, or the retail pharmaceuticals have established robust strategies that effectively adapt to outside the firm pressures, hence reducing their direct, measurable influence on competitive advantage. As a result, while the external task environmental factors play a key role in business operations, the results show that these specific external task environmental factors do not act as direct drivers of competitive advantage within the retail pharmaceuticals.

Table 4: Ordinal logistic regression between environmental factors and competitive advantage

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-5.428	3.262	-1.663	0.096
environmental factors	0.782	0.801	0.975	0.329

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The results of the ordinal logistics regression further show that there is no statistically significant relationship between environmental factors and competitive advantage. These consistent results from the ordinal logistic regression supports the inferences drawn from the correlation and chi-square tests. The absence of a statistically significant relationship depicts that, within this predictive model, the variations experienced from the measured external task environmental factors do not consistently lead to a statistically significant change in competitive advantage. Therefore, when the external task environmental factors are analyzed and measured, they may not necessarily be the main differentiator for competitiveness within Nairobi's retail pharmacies. However, the intercept (-5.428) suggests a decreased chance of achieving competitive advantage in the retail pharmacies when external task environmental factors are low or absent. This infers that competitive advantage within the retail pharmaceuticals is driven by other external environmental factors beyond what has been considered in this study.

Table 5: Ordinal logistic regression between factors that make up environmental factors and competitive advantage

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-4.149	3.199	-1.296	0.194
Government support	0.030	0.397	0.075	0.939
Competitive pressure	0.541	0.594	0.910	0.362
Consumer supplier pressure	-0.139	0.475	-0.293	0.769

All the factors that make up environmental factors do not have a significant influence on competitive advantage. With p-values of greater than 0.05 the variations in environmental conditions, such as Government support, Competitive pressure and Consumer / supplier pressure, do not influence competitive advantage within the dataset analysed. Despite some generalized assumption that external task environmental factors; competitive pressure, government support, consumer/ supplier pressure, would greatly drive the success of a firm, the analysis gave a different outcome based on this study within the retail pharmacies. The p-value greater than 0.05 for Government support, Competitive pressure, and Consumer/supplier pressure show that changes in these external factors do consistently translate into a measurable change in competitive advantage within the retail pharmaceutical sector. The findings suggest that achieving competitive advantage within the retail pharmacies in Nairobi may center less on the external task environmental factors but more on distinct internal strengths, strategic decisions, or other market-specific interplays not addressed within these environmental factors.

Table 6: Ordinal logistics for competitive advantage and Environmental factors

	Estimate	Std. Error	z value	Pr(>|z|)
(Intercept)	-21.918	6.982	-3.139	0.001
Environmental factors	-1.425	1.059	-1.345	0.178

Environmental factors have a negative estimate (-1.425) with a non-significant p-value (0.178), indicating that external conditions such as government support or market pressure may not be contributing positively to competitive outcomes. This is aligned with earlier findings from individual tests where environmental factors consistently showed weak or no statistical associations with competitive advantage.

Discussion of Results

Influence of External Task Environmental Factors on Competitive Advantage

The study focused on examining the influence of external task environmental factors on competitive advantage in retail pharmacies in Nairobi. According to Ausat and Peirisal (2021), these are specific external factors that directly impacts the ability of an organization to achieve its objectives. The results of Spearman's rank correlation analysis ($\rho = 0.00939$, $p = 0.9056$) indicated an extremely weak and statistically non-significant positive relationship between environmental factors and competitive advantage, suggesting no meaningful monotonic association between the two variables. The results did not support findings by (Ocloo et al. (2020), Setiyani & Rostiani (2021), Hamad et al. (2018)) who established that there was a significant positive relationship between government support, competitive pressure, supplier pressure and competitive advantage. Chi-square test results ($\chi^2 = 2.5127$, df = 2, $p = 0.28$), indicated no statistically significant association between external task environmental factors and competitive advantage at the categorical level. Furthermore, the results of the ordinal logistic regression analysis reinforced these findings by demonstrating that environmental factors do not have a statistically significant predictive effect on competitive advantage. The results did not support findings by (Ochola (2015), Kabata & Maina, (2022), Mugo & Macharia, (2021)), who established that competitive pressure and government support had a significant positive relationship on competitive advantage.

Conclusion

The results of Spearman's rank correlation analysis ($\rho = 0.009$, $p = 0.905$) indicated an extremely weak and statistically non-significant positive relationship between environmental factors and competitive advantage, suggesting no meaningful monotonic association between the two variables. This finding was further supported by the chi-square test results ($\chi^2 = 2.512$, df = 2, $p = 0.28$), which also indicated no statistically significant association between environmental factors and competitive advantage at the categorical level. Furthermore, the results of the ordinal logistic regression analysis reinforced these findings by demonstrating that environmental factors do not have a statistically significant predictive effect on competitive advantage. Hence this led to the conclusion that external task environmental factors do not necessarily drive the retail pharmacies towards competitive advantage.

Recommendations

The results indicate that environmental factors, within the scope of this study, do not have a clear or measurable impact on competitive advantage among retail pharmacies. The lack of statistically significant results across all analytical methods suggests that, compared to other variables, environmental factors may not be pivotal in shaping competitive positioning in this specific sector or geographic setting. While these factors are often theorized as critical enablers of innovation, their limited role in this study suggests that retail pharmacies in Nairobi may rely more on internal capabilities and individual competencies than on external pressures or support to achieve competitive advantage.

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