



E-COMMERCE ADOPTION AND ORGANIZATIONAL PERFORMANCE AMONG FERTILIZER MANUFACTURERS: THE CASE OF MINJINGU MINES & FERTILIZER LIMITED

^{1*} Camilus Odhiambo Oduor, ²Dr. Benjamin Mulili, & ³Mr. Ruto Yano

^{1*} A post graduate student, Catholic University of Eastern Africa

² Lecturer, Catholic University of Eastern Africa

³ Lecturer, Catholic University of Eastern Africa

Email of the corresponding Author: twittor@gmail.com

ABSTRACT

Purpose of the study: The study sought to investigate the impact of e-commerce adoption on organizational performance among fertilizer manufacturers in the case of Minjingu Mines & Fertilizer Limited.

Statement of the problem: There is limited information on how e-commerce technologies can aid fertilizer manufacturers in enhancing their performance. The current investigation sought to fill this gap in literature by evaluating the impact of ecommerce technologies on the performance of fertilizer manufacturers in the case of Minjingu Mines & Fertilizer Limited.

Research methodology: Quantitative descriptive research design was utilized in the study. The target population was 102 respondents from Tanzania, Kenya, Uganda and Rwanda. The units of observation were regional managers, assistant regional manager, sales representatives and customer relations officer. The study conducted a census.

Findings: Payment option was positively and significantly related to performance ($\beta=.204$, $p=0.006$). Similarly, marketing was positively and significantly related to performance ($\beta=.391$, $p=0.002$). Procurement platform and performance was negatively and insignificantly related to performance ($\beta=-.058$, $p=0.066$). Distribution channel and performance was negatively and insignificantly related to performance ($\beta=-.202$, $p=0.057$).

Conclusions: The adoption of e-commerce as a distribution channel had no significant impact on the performance of Minjingu Mines & Fertilizer Limited. The study also concluded that the adoption of e-commerce as a payment option was the second most significant predictor of performance at Minjingu Mines & Fertilizer Limited. The adoption of e-commerce as a marketing and communication platform was the most significant predictor variable affecting the performance at Minjingu Mines & Fertilizer Limited.

Recommendations: The study recommended the institution (Minjingu Mines & Fertilizer Limited) not to focus on the adoption of e-commerce as a distribution channel. This is because the platform was observed to have no significant impact on the performance of the firm. The organization should also not focus its effort on adopting e-commerce as a procurement platform since it had no impact on firm's performance. The study recommended an increase use in debit and credit cards as payment options allowing clients to securely and efficiently complete business transactions with the firm. The study further recommended a need for the organization to increase its email marketing approach to help personalize its marketing approach and enhance its performance.

Keywords: *E-commerce platforms, payment option, branding platform, customer engagement platform, Minjingu Mines & Fertilizer Limited*

1.0 INTRODUCTION

In the current complex and challenging business environment, organizations are increasingly adopting various information technologies as a key strategy for enduring the prevailing competition from their rivals. Sin et al. (2016) argue that e-commerce technologies are among the most adopted technologies by firms. This is due to their perceived benefits for both the clients as well as the organization. For organizations that deal in the sale of goods and services, e-commerce is increasingly becoming a critical component. Various investigations have attempted to define the concept of e-commerce. Chaffey, Hemphill, and Edmundson-Bird (2015), in their study, define e-commerce as the use of online platforms in carrying out various business transactions. It can also be defined as an intricate process that increases the formulation of a strategy, communication, fulfillment/satisfaction, and evaluation of current business transactions between an organization's stakeholders. Gupta (2014) also posits that it is the exchange and trade of goods, services, and information online.

E-commerce adoption offers huge advantages to businesses across every industry. Different investigations have been carried out to this effect. Sunayana and Parveen (2019) and Mndzebe (2016), while investigating the effect of e-commerce adoption among Indian and South African firms respectively, demonstrated that e-commerce contributed significantly to various business operations, including payment services, marketing operations, electronic ordering, and delivery, customer support as well as advertising. The investigation observed that when used right, e-commerce tools can offer huge advantages to businesses. Locally, Muhami (2019) and Maina (2016) have all demonstrated in their investigations that e-commerce has significantly impacted SME's and supermarkets' performance in the country. Such findings demonstrate that e-commerce adoption can play a considerable role in enhancing an organization's performance if adopted and implemented as desired.

It is essential to note that the adoption of e-commerce takes various approaches in line with various business operations. These include adopting the technology as marketing and communication platform, a distribution channel, procurement options, and payment options. The adoption of e-commerce as a marketing and communication platform has extensively been studied and positively affected organizational performance. Studies by Sheikh et al., (2018), Wisdom (2015), Adede, Kibera, and Owino (2017), and Maina (2017) have all investigated how e-marketing impacts organizational performance. All these studies demonstrated that e-marketing is essential in enhancing an organization's performance as it allows firms to have a

wider reach, easily communicate with their clients and increase direct communication with customers, among others.

The adoption of e-commerce platforms as a distribution channel have also been extensively researched and found to have a positive impact on organizational performance. Beheshti, Oghazi, Mostaghel, and Hultman (2014), in their study, argued that e-distribution options offered manufacturing firms the ability to enhance their organizational performance. Similar results were observed in the investigation by Beheshti, Oghazi, Mostaghel, and Hultman (2014), and Hsu (2017) also demonstrated the importance of using e-commerce as a distribution platform on the performance of various firms. Locally, Kang'e, Senaji, Kang'e, and Orero (2020) also managed to determine that the adoption of e-commerce as part of distribution management played an essential role in facilitating insurance performance firms.

It is essential to note that there are various ways to analyze an organization's degree of performance. Wang and Sengupta (2016) are of the notion that positive performance can be evaluated based on its value to the firm's stakeholders. The analysis is founded on how it has influenced the organization's financial status as for financial performance. There are various performance dimensions, but Lumpkin and Dess (2001) noted four possible scopes of performance, including market proportion, consumer satisfaction, return on investment, and general productivity and profitability. Additionally, Effiok and Cornelius (2012) also offered suggestions on four dimensions of performance, including retaining customers, the success of a new product, return on assets, and an increase in sales as a measure of organizational performance market orientation.

1.1 STATEMENT OF THE PROBLEM

Most organizations have the objective of enhancing its shareholder's wealth. This is realized through various means, including market expansion as well as business re-engineering, among others. The market or the clients that an organization serves are vital players towards the realization of such objectives. According to Jiménez-Jiménez and Sanz-Valle (2011), organizations that have been in business for some time look to increase their performance by realizing new techniques of doing business or coming up with new markets or products to serve its intentions. E-commerce offers an opportunity for organizations to re-design their strategy to enhance their performance. This has been demonstrated in various investigations, including those by Sunayana and Parveen (2019), Mndzebele (2016), Muhami (2019), and Maina (2016), who have all investigated the impact of e-commerce on business operations. The studies have demonstrated that e-commerce has a positive correlation with business performance. However, these investigations were carried out in different industries and localities using different approaches making their findings unsuitable for the current investigation.

Minjingu has, over the years, served a given segment of the market, which is mainly made up of government bodies, major retailers, and large organizations that deal with agricultural produce. As a manufacturing firm, this market segment forms the primary target audience for the organization. Abu Bakar and Ahmed (2015) note that most manufacturers market and sell their products mostly to distributors, retailers, and clients who can purchase bulk items.

As a manufacturer, despite addressing its current clientele' needs, Minjingu stands a chance of gaining significantly from e-commerce. Through e-commerce, the organization can open up new markets, monitor its client's behavior, and increase interaction and communication with its clientele, thus enhancing their performance. According to Abu Bakar and Ahmed (2015),

manufacturers worldwide are adopting e-commerce solutions in an attempt to directly communicate and interact with the end-users of their products. (CITENAME) has found the adoption of e-commerce technologies as one of the key approaches to enhancing organizational performance. This is the rationale that should motivate Minjingu Mines & Fertilizer Limited to adopt e-commerce tools and techniques in increasing their organizational performance. Despite the availability of literature on the importance of adopting e-commerce technologies, there is limited to no information on how such technologies can aid fertilizer manufacturers in enhancing their performance. The current investigation hopes to fill this gap in literature by evaluating the impact of ecommerce technologies on the performance of fertilizer manufacturers: the case of Minjingu Mines & Fertilizer Limited.

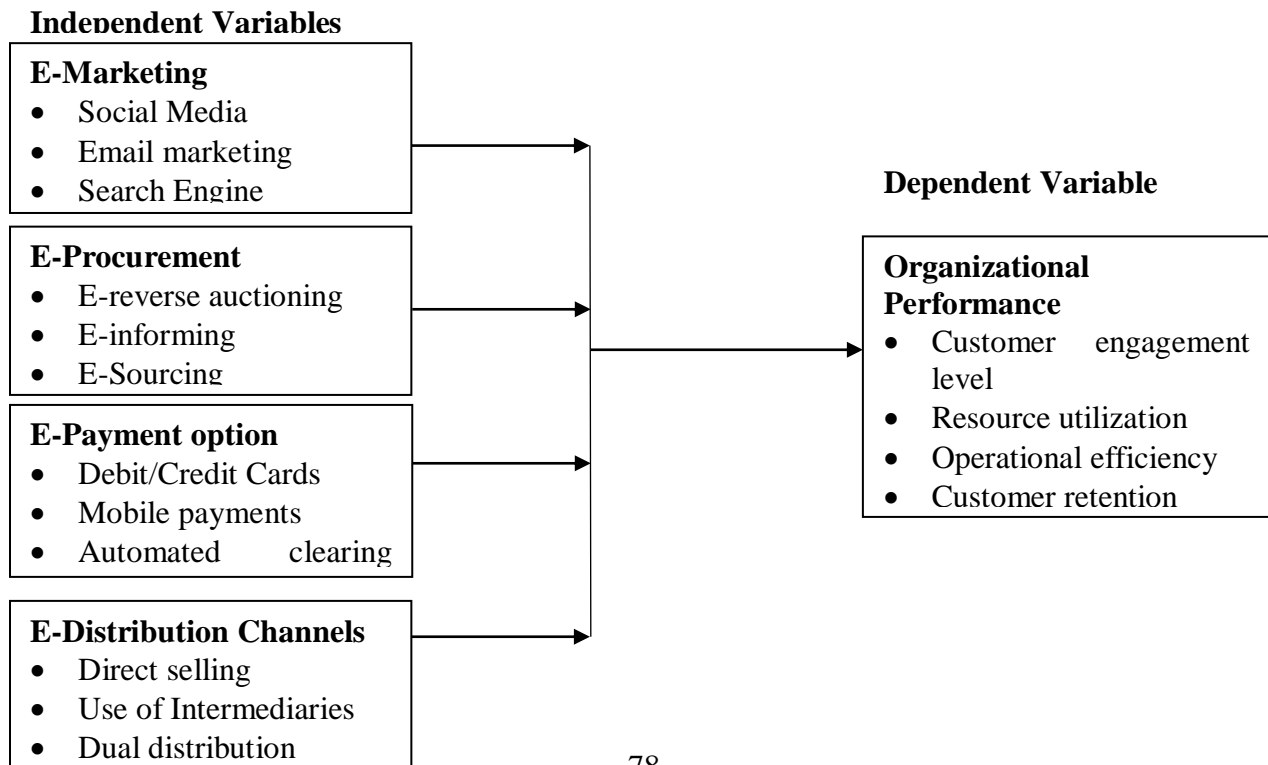
1.2 RESEARCH OBJECTIVES

- i. To identify how the adoption of e-commerce platforms as a payment option affects fertilizer manufacturers' business performance.
- ii. To identify how the adoption of e-commerce platforms as a branding platform affects fertilizer manufacturers' business performance.
- iii. To establish the impact of adopting e-commerce tools as a customer engagement platform on fertilizer manufacturers' business performance.
- iv. To identify how the adoption of e-commerce as a platform for receiving and fulfilling orders affects fertilizer manufacturers' business performance.

1.3 CONCEPTUAL FRAMEWORK

Figure 1 below presents the conceptual framework

Figure 1: Conceptual Framework



2.0 LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

2.1.1 Expectation-Confirmation Theory

Proposed by Bhattacharjee (2001), the expectation confirmation theory (ECT), is considered instrumental in understanding and predicting users' intentions to continually use a given technology. The theory posits that one's intention to continually use a given technology is based on the users' personal level of satisfaction and the resultant feeling after consuming the product. The decision to buy or not buy a given technology among consumers is pegged on the differences between their initial expectations and how they perform. According to Halilovic and Cicic (2013), based on the model, they observe that the similarity between what the consumer initially expected and the product's actual performance or service influences both the perceived utility functions and their satisfaction. As such, the perceived usefulness of a given technology influences consumer satisfaction, which in turn impacts continuance intention.

According to Lin and Hsieh (2007), the philosophy is of the suggestion that consumer decision to continually utilize a given innovation such as e-commerce platforms follows a routine sequence to arrive at intentions to repurchase. The use of e-commerce by clients begins way before the actual purchase. It starts when the client develops some expectations of the platform or service in question. After this, the client or e-commerce users develop an opinion on the service or product performance before comparing it to the initial expectations. Coursar, Hassanein, Head, and Bontis (2012) argue that the degree of satisfaction is influenced by the point where the client's expectations align with the product's performance or service in question.

Consequently, satisfied clients establish a repurchase intention while those that are not satisfied cease their intentions of repurchasing the product or service. In their publication, Klein et al. (2009) observe that in e-commerce, the factors that are critical in defining consumer expectations include service assurance, reliability, empathy, and responsiveness. Clients' decisions to use e-commerce platforms depend on their expectations on the platform, including how secure it is, its reliability, convenience, affordability, and how easy it is to utilize the platform. As such, consumer satisfaction in relation to using e-commerce is impacted by the perceived use and the service or product offered on the platform.

2.1.2 Technology Acceptance Model

Advanced by Davis (1989), this theory posits that one is motivated to utilize a given innovation based on his or her willingness to have faith and accept its advantages, level of satisfaction, and ease of use. The model argues that the consumer's behavioral intention to adopt and implement a given technology is a reflection of his or her acceptance of its usefulness and ease of use. As such, users' intentions to adopt and implement a given technology-based are thus founded on the consumers' perceived usefulness and ease of use (Niederhauser and Perkmen, 2010). This model is instrumental in this study, given that it provides weight in predicting user behavior when interacting with an e-commerce platform. It should be noted that users' acceptance to take advantage of a given technological solution is influenced by the quality of the solution and its simplicity. Simplicity, according to Davis (1989), is defined as the confidence of using a given technology with little effort. In the context of this model, the perceived convenience impacts consumer behavior directly.

2.1.3 Transaction Cost Innovation Theory

Advanced by Broschak and Niehans (2006), this theory makes the suggestion that one of the major factors that drive innovation is the reduction in the cost of transactions. The ability to reduce transaction costs of an organization significantly influences its performance. E-commerce platforms for what they are developed to achieve can reduce the cost of transactions. It should be observed that internet-oriented information technologies have the ability to reduce the cost of transactions given that it provides consumers with off-site access to a firm's products or services. This reduces the costs associated with brick and mortar innovations or firms. However, for consumers to be satisfied, it is essential for the quality of services provided by the e-commerce platforms to be better compared to conventional forms of business.

2.2 Empirical Review

2.2.1 E-Commerce Adoption as a Payment Option and Organizational Performance

Bandi, Moreno, Ngwe, and Xu (2019) investigated the impact of payment options on online retail, drawing its evidence from the 2016 Indian demonetization. According to the study, the demonetization of Indian currency in 2016 resulted in a considerable shock on its entire economy. However, the cash shortage in the country was managed through the increased adoption of e-payment options. Relying on transaction data drawn from retail stores in India, the investigators observed that the demonetization was a key source in inducing clients to switch to e-payment options from the cash on delivery. Of the clients who switched to digital payment approaches, the study noted that most of them maintained their purchase frequency, spend, or were less likely to return their purchases. The investigation findings demonstrated that organizations in emerging markets could take advantage of e-payment options to realized operational gains and enhanced consumer satisfaction.

Oyelami, Adebisi, and Adekunle (2020), in their study, investigated the adoption of e-payment options and customer spending behavior among Nigerian firms. This investigation aimed to identify factors driving the adoption of e-payment options as well as how such technologies impact consumer spending and purchasing decisions. It relied on both primary and secondary data to inform its findings. Cross-sectional surveys were used to collect primary data, while a review of various literature pieces helped collect secondary data. With more than 420 study participants drawn from five regions across Lagos, the investigation used both inferential and descriptive statistics to analyze its data. Its findings demonstrated that e-payment system determinants such as security, convenience, trust, safety, and social influence positively influenced the adoption of such technologies. Other factors, including the level of education, income level, internet availability, and financial inclusion, also played an essential role in influencing such innovations. Additionally, the study's findings also revealed a positive correlation between e-payment options and an increase in consumer spending. Therefore, it argued that electronic payment options influence consumer purchasing decisions and can, therefore, be used by organizations to enhance their business operations.

On the local front, Okiro (2015), in his study, looked into how e-payment options have impacted Nairobi County's revenue collection. The investigator adopted a descriptive study design to collect his information. Data used to inform the investigation was mostly from secondary sources. Data was mostly made of Nairobi County records realized from its 18 departments. The data realized. Both inferential and descriptive statistics were used to analyze the information collected to inform the study. The study's findings demonstrated that revenue collection within

Nairobi County has significantly increased after the adoption of e-payment options by the County government. The study also observed that e-payment options also resulted in the county realizing enhanced compliance with budget estimates while eliminating losses. It recommended that the county government should ensure that all its localities are using e-payment options to help it enhance revenue collection and compliance with budgets.

2.2.2 E-commerce as a distribution Channel and Organizational Performance

Beheshti, Oghazi, Mostaghel, and Hultman (2014), in their investigation, sought to investigate how the integration of electronic supply chain influences the financial performance of manufacturing firms in Sweden. The study settled on a review of various literature pieces, including organizational reports, to determine how to complete integration of supply chain management influenced manufacturers' performance in the country. Its findings demonstrate that those firms with total supply chain integration, including electronic management of supply chain, recorded higher financial performance than those that only used traditional approaches. Therefore, it concluded that for enhanced performance, organizations and in particular, manufacturers have to adopt the desired supply chain approaches in their business operations.

Locally, Kang'e, Senaji, Kang'e, and Orero (2020) looked into the use of various distribution models on Kenya's private health insurance sector. In this case, the objective was to determine the influence of distribution models in helping the organization realize the desired competitive advantage. The investigation adopted a descriptive survey design targeting managers of insurance firms in the country. Its findings demonstrated that those firms with multiple distribution channels realized enhanced performance compared to those that depended on a singular approach. According to the investigation, the adoption of mobile technologies as part of distribution management played a key role in facilitating insurance firms' performance. Therefore, it concluded that they need to adopt online options into their distribution channels for such organizations to enhance their performance.

2.2.3 Electronic Marketing and Communication and Organizational Performance.

A majority of studies have been carried out on the impact of e-marketing on organizational performance. Sheikh, Rana, Inam, Shahzad, and Awan (2018) sought to investigate whether e-marketing influences sustainable business performance. It recognizes e-marketing as an emerging practice being adopted by various organizations. As such, it sets out to analyze the relationship between e-marketing and the realization of sustainable organizational performance by looking at the role of management and government support. With a focus on textile firms in Pakistan, the investigation uses a literature review to inform its findings. It demonstrates that e-marketing has a considerable impact on organizational performance, particularly when supported by management and government regulations.

Wisdom (2015), on the other hand, looked at the impact of e-marketing on organizational performance with a focus on members of the Midlands Meander Association. They sought to investigate the degree to which internet marketing influences the relationship of members of the firm and their potential customers. It adopts a systematic review of literature to collect data that informs its findings. Surveys and, in particular, the use of questionnaires have also been used to collect primary data from MMA members who were randomly selected to inform the investigation. The findings of the study demonstrate that internet marketing enhanced the relationship between firm members and their clients. However, it observes that the concept is yet to be fully exploited a majority of the firm's members despite its obvious advantages in

increasing consumer relationship. Therefore, it recommends that all firm members adopt e-marketing to help them realize enhanced relationships with their customers and achieve set organizational goals.

Maina (2017) sought to investigate internet marketing's impact on Kenya's real estate industry's performance. Adopting a descriptive research design, the investigation targeted players in the real estate industry in Kenya. It used questionnaires to collect its primary information while secondary data was collected using organizational records and a review of various literature pieces. With a total of 145 study subjects, the investigation demonstrated a positive correlation between internet marketing and firms' organizational performance in the real estate industry in Kenya. It argued that internet marketing offered such firms a wider reach and ease of communication with clients that traditional means of marketing could not have reached.

2.2.4 E-Procurement and Organizational Performance

The study by Mubarak (2019) determined that e-procurement positively influenced organizational performance. With a focus on the manufacturing sector in Pakistan, the investigation observes that organizations are changing their operations, making them easier and efficient by using technological advancement. It further posits that traditional procurement is time-consuming and costly as compared to e-procurement. To prove its point, the study adopted a systematic review of various pieces of literature to help it inform its findings. It demonstrated that e-procurement did not only enhance speed and efficiency but also encouraged transparency in integrating supplier's relationship with the firm. Therefore, it argued that manufacturing firms need to drop traditional procurement approaches and adopt e-procurement to enhance their business performance.

Avedi (2016) investigated the adoption of e-procurement practices and how it influences Nairobi County manufacturers' organizational performance. The investigation posits that e-procurement has been considered among the key performance indicators in enhancing an organization's performance and competency. Adopting a descriptive approach, the investigation used questionnaires to collect its data. During data collection, its focus was on members of the Kenya Association of Manufacturers who were randomly selected to help inform the investigation findings. Data analysis in the study was realized through the use of Statistical Package for Social Sciences and multiple regression analysis. The findings demonstrate that the adoption of e-procurement among manufacturers enhanced their organizational performance. As such, the investigation recommended that manufacturers adopt e-options in their procurement processes to help them realize the desired competitive edge and enhance their performance.

Siricha and Theuri (2016) study focused on how electronic procurement impacts the Kenya ports' authority's performance. In particular, the investigation was interested in how technological advancements in the procurement sector impacts its performance. The investigation adopted a descriptive research design and used questionnaires to collect its data from a sample realized through stratified random sampling with a focus on the Kenya ports' authority. Data analysis, in this case, was realized through regression analysis and correlation analysis. Its findings demonstrated that the organization's adoption of e-procurement was essential in enhancing its performance and enforcing transparency in the procurement process.

2.2.5 E-Commerce Adoption and Organizational Performance

In Sunayana and Parveen (2019) study, it is argued that e-commerce is a critical tool in realizing the desired competitive advantage and increasing a firm's market base. For this reason, this investigation tried to evaluate how e-commerce applications affect Indian travel firms' performance. The study categorized e-commerce components into five categories, including e-marketing, e-customer support service, e-payment, e-advertising, and electronic order and delivery. Using the right tools of analysis, the study demonstrated that e-commerce was a critical tool in increasing India's tour firms' performance.

Muhami (2019) studied how e-commerce affects business growth in the auto industry. The investigation used an explanatory research design targeting a population of all Cheki car dealers in Mombasa, Kisumu, Nairobi, Eldoret, and Bungoma. Sampling 146 dealers, the study used the Statistical Package of Social Sciences and descriptive and inferential statistics to analyze its data. Its findings demonstrated that e-commerce was instrumental in the creation of an enabling environment for auto dealers in Kenya. The investigation also demonstrated that the customer care support structured by e-commerce platforms was critical in realizing customer trust, which subsequently enhanced business growth. It was therefore concluded in the investigation that to grow, the auto industry in Kenya will need to tap into the advantages being leveled by e-commerce.

Finally, Maina (2016) also sought to investigate how e-commerce impacts organizational growth and performance among Kenyan supermarkets. Also, adopting an exploratory approach, the investigation used questionnaires made of both open and close-ended questions to collect its data. It targeted supermarkets in Nairobi county, thus sampling 52 supermarkets providing the study with 104 respondents. Data collected in this investigation were also analyzed using the Statistical Package for Social Sciences. Its findings demonstrated that supermarkets realized sustainable competitive advantage as a result of e-commerce adoption. Through platforms such as e-retail systems, the study posits that supermarkets enhanced their efficiency, thus increasing their performance. This study also recommended the adoption of e-commerce among supermarkets in order to enhance their organizational performance.

3.0 RESEARCH METHODOLOGY

Quantitative descriptive research technique was utilized in the study. Bell, Bryman and Harley (2018) observed that the descriptive research approach is a scientific method that involves observing and describing the study subjects' behavior without influencing them in any way. The target population was 102 respondents from Tanzania, Kenya, Uganda and Rwanda. The units of observation were regional managers, assistant regional manager, sales representatives and customer relations officer. The study conducted a census; all the respondents were included in the study.

4.0 RESEARCH FINDINGS AND DISCUSSIONS

4.1 Descriptive Statistics

4.1.1 Effects of E-Commerce Adoption as a Payment Option on the Performance of Minjingu Mines & Fertilizer Limited

Table 1 below presents the effects of e-commerce adoption as a payment option on the performance

Table 1: Effects of e-commerce adoption as a payment option on the performance of Minjingu Mines & Fertilizer Limited

| The Statement | Very Low Extent (%) | Low Extent (%) | Moderate (%) | High Extent (%) | Very High Extent (%) |
|---|---------------------|----------------|--------------|-----------------|----------------------|
| How often does Minjingu allow for debit/credit card payment methods | 25.3 | 45.5 | 29.3 | | |
| How often does Minjingu allow clients use to mobile payment options to complete business transactions | 21.2 | 41.4 | 24.2 | 13.1 | |
| How often does Minjingu allow clients to use the automated clearing house network as a payment option | 23.2 | 57.6 | 2 | 17.2 | |

Table 1 above demonstrates that most of the respondents, 45.5%, indicated that Minjingu Mines & Fertilizer Limited use of debit/credit cards for payment was low. 25.3% of the participants indicated the use of debit and credit cards at the firm to be at a very low extent, while 29.3% took a neutral stand. Similarly, most of the study respondents, 41.4%, disagreed with the statement that the firm allowed clients to complete business transactions using mobile payment as they indicated a low extent of adoption, while 21.2% indicated a very low extent of adoption. 24.2% had a moderate view on the statement, while 13.1 noted that the use of mobile payment at the institution was to a high extent. The findings also demonstrate that a majority of the respondents, 57.6%, also felt the firm rarely allowed its clients to use automated clearinghouse network as a payment system as they indicated a low extent adoption of the platform while 23.2% considered the adoption to be at a very low extent and 17.2 felt the adoption was to a high extent.

These findings demonstrate the lack of or limited adoption of e-commerce as a payment option at the organization. It is apparent that the organization used debit and credit card means of payment to a low extent and not as desired. Similarly, the organization did not also encourage the use of mobile payments as indicated by the low extent usage by its employees. The use of an automated clearinghouse network as a payment option was also observed to be very low at the firm. The observations by Bandi, Moreno, Ngwe, and Xu (2019) support the findings of this investigation as they argue that the adoption of credit and debit card payment plays a key role in enhancing the performance of an organization. Similarly, the investigation by Okiro (2015) observed that the use of mobile payment systems is among the key drivers of e-commerce adoption in Kenya today.

4.1.2 Effects of Adoption of E-Commerce as a Marketing and Communication Platform on the Performance of Minjingu Mines & Fertilizer Limited

Table 2 depicts the effects of adoption of e-commerce as a marketing and communication platform on the performance

Table 2: Effects of e-commerce adoption as a marketing and communication platform on the performance of Minjingu Mines & Fertilizer Limited

| The Statement | Very Low Extent (%) | Low Extent (%) | Moderate (%) | High Extent (%) | Very High Extent (%) |
|--|---------------------|----------------|--------------|-----------------|----------------------|
| To what extent does Minjingu Mines & Fertilizer Limited use social media for marketing and communicating with its clients? | 11.1 | 68.7 | 7.1 | 13.1 | |
| To what extent does Minjingu Mines & Fertilizer Limited use email marketing to reach out to its clients? | 29.3 | 59.6 | | 11.1 | |
| To what extent does Minjingu Mines & Fertilizer Limited use search engine optimization to reach out to its clients | 48.5 | 51.5 | | | |

Table 2 above demonstrates that a majority of the respondents, 68.7%, noted that Minjingu uses social media as a marketing tool to a low extent, while 11.1% indicated that they used the platform to a very low extent. 7.1% took a neutral stand, while 13.1% considered the use of social media to be to a high extent. A significant percent of the respondents, 59.6%, also demonstrated that the firm used email marketing to a low extent, while 29.3% indicated that the use of mobile marketing in the firm was to a very low extent. 11.1% indicated the use of email marketing at the firm to be to a high extent. The study also observed that most of the participants, 51.5% were of the idea that the organization uses search engine optimization as a marketing approach to a low extent, while 48.5% indicated they use to be at a very low extent.

The findings demonstrate that the use of social media marketing at the firm is significantly low. Similar observations can be made on how the organization leverages the use of mobile marketing to communicate or market its products to its clients. However, it is apparent that the firm uses email marketing to some extent. The firm does not also make effective use of search engine optimization to market its products to potential clients. These results are supported by Adede, Kibera, and Owino (2017), who, in their investigation, demonstrated that social media was a key platform for online marketing. The study argued that organizations that are looking to leverage e-commerce must adopt the right social media strategy that will get the attention of its clients from the millions of users online. Wisdom (2015) has also argued for the use of email marketing as the desired form of online marketing for firms that are looking to adopt e-commerce technologies. The investigation argued that email marketing gives firms the opportunity to communicate directly with their clients as well as share targeted information with stakeholders. Finally, the study by Maina (2017) also supports the findings of this investigation as he observed that the use of search engine optimization is among the major approaches organizations that are moving their operations online use to reach their clients.

4.1.3 Effects of E-Commerce Adoption as a Distribution Platform on the Performance of Minjingu Mines & Fertilizer Limited.

Table 3 presents the effects of e-commerce adoption as a distribution platform on the performance

Table 3: Effects of e-commerce adoption as a distribution platform on the performance of Minjingu Mines & Fertilizer Limited

| The Statement | Very Low Extent (%) | Low Extent (%) | Moderate (%) | High Extent (%) | Very High Extent (%) |
|---|----------------------------|-----------------------|---------------------|------------------------|-----------------------------|
| To what extent does Minjingu Mines & Fertilizer Limited use direct selling as a distribution option | 11.1 | 81.8 | 7.1 | | |
| To what extent does Minjingu Mines & Fertilizer Limited leverage the use of intermediaries as a distribution option | 29.3 | 70.7 | | | |
| To what extent does Minjingu Mines & Fertilizer Limited use the dual approach as a distribution option | 48.5 | 51.5 | | | |

Table 3 above demonstrates that a significant number of the study subjects, 81.8.6% indicated that the firm used direct selling to a low extent while 11.1% noted the use of the solution as a distribution platform to be at a very low extent. 7.1% of the respondents took had a moderate view on the statement. Similarly, 70.7% of the participants also felt that using electronic intermediaries as a distribution option was to a low extent, while 29.3% considered it very low. A majority of the respondents, 51.5%, also noted that the use of a dual approach as an online distribution option was to a low extent at the firm, while 48.5% considered the use of the platform to be very low.

The findings demonstrate that the firm rarely used online direct selling as its desired option for distribution. Similar observations were made on the use of electronic intermediaries as a distribution solution as it was demonstrated that the firm either used it to a low extent or a very low extent. The study also notes that the organization uses a dual approach to a low extent. These findings are supported by Kang’e, Senaji, Kang’e, and Orero (2020), who looked into the impact of online distribution channels on organizational performance. The study demonstrated that the use of online direct selling played a key role in enhancing the distribution channels for firms. In his study, Hsu (2017) also made observations that support the findings of this investigation as they demonstrated that online intermediaries offered firms effective distribution channels key in enhancing organizational performance.

4.1.4 Effects of E-Commerce Adoption as a Procurement platform on the Performance of Minjingu Mines & Fertilizer Limited

Table 4 depicts the effects of e-commerce adoption as a procurement platform on the performance of Minjingu Mines & Fertilizer Limited

Table 4: Effects of e-commerce adoption as a procurement platform on the performance of Minjingu Mines & Fertilizer Limited

| The Statement | Very Low Extent (%) | Low Extent (%) | Moderate (%) | High Extent (%) | Very High Extent (%) |
|--|---------------------|----------------|--------------|-----------------|----------------------|
| How often does Minjingu use e-reverse auctioning as a procurement option | 29.3 | 64.6 | 6.1 | | |
| How often does Minjingu use e-informing as a procurement option | 15.2 | 52.5 | 19.2 | 13.1 | |
| How often does Minjingu use e-sourcing as a procurement option | | 52.5 | 23.2 | 24.2 | |

Table 4 above demonstrates that a significant number of the study subjects, 64.6% indicated that the firm used e-reverse auctioning to a low extent while 29.3% noted the use of the solution as a procurement platform to be at a very low extent. 6.1% of the respondents took had a moderate view on the statement. Similarly, 52.5% of the participants also felt that e-information as a procurement option was to a low extent, while 15.2% considered it very low. 19.2% of the respondents had a neutral view on the statement, while 13.1% considered the use of e-information to be to a high extent. A majority of the respondents, 52.5%, also noted that the use of e-sourcing as a procurement option was to a low extent at the firm. 24.2% of the respondents considered the use of e-sourcing at the firm to be high, while 23.2% had a moderate view on the statement.

The findings demonstrate that the firm rarely used e-reverse auctioning as its desired platform for procurement. Similar observations were made on the use of e-information as a procurement solution as it was demonstrated that the firm either used it to a low extent or a very low extent. The study also notes that the organization uses e-sourcing to a low extent. These findings are supported by Ibem and Laryea (2015), who looked into the impact of e-procurement on organizational performance. The study demonstrated that the use of e-reverse options played a key role in enhancing organizations' procurement performance. Avedi (2016), in their study, also made observations that support the findings of this investigation as they demonstrated that e-information provided firms with the desired information need to ensure an effective procurement process.

4.1.5 Effects of E-Commerce Adoption on the Performance of Minjingu Mines & Fertilizer Limited

Table 5 below presents the effects of e-commerce adoption on the performance

Table 5: Effects of e-commerce adoption on the performance of Minjingu Mines & Fertilizer Limited

| The Statement | Very Low Extent (%) | Low Extent (%) | Moderate (%) | High Extent (%) | Very High Extent (%) |
|--|---------------------|----------------|--------------|-----------------|----------------------|
| To what extent has the level of customer engagement grown in the firm | | 28.3 | 31.3 | 40.4 | |
| To what extent has resource utilization resource utilization grown in the firm | 8.1 | 13.1 | 14.1 | 56.6 | 8.1 |
| To what extent has the operational efficiency in the organization grown | | 12.1 | 28.3 | 46.5 | 13.1 |

From Table 5, the investigation observes that a majority of the study subjects, 40.4% indicated that the adoption of e-commerce resulted in the firm realizing enhanced levels of customer engagement to a high extent. 31.3% of the respondents took a neutral position on the statement, while 28.3% observed that the adoption of e-commerce had affected the growth of consumer engagement a low extent. Similarly, 56.6% of the respondents also indicated that the adoption of e-commerce has resulted in growth in resource utilization to a high extent at the firm, with 8.1% indicating that e-commerce helped the firm realize efficient resource utilization high extent. 22.2% and 13.1% took a moderate position on the statement, while 13.1% considered the impact to be a low extent, and 8.1% noted that impact was very low. The investigation also notes that 46.5% considered e-commerce to impact operational efficiency at the organization to a high extent, while 13.1% thought it impacted performance to a high extent. 28.3% took a neutral stand on the statement, while 12.1 considered the impact as low.

These results indicate that the adoption of e-commerce at the institution is likely to result in enhanced consumer engagement, which is among the firm's key performance indicators. It is also observed that the organization's adoption of e-commerce is likely to result in the growth of efficient resource utilization, which plays a critical role in enhancing the performance of an organization. The study also observes that adopting e-commerce technologies results in operational efficiency realization as processes are automated and made easy. The results are supported by those of Muhami (2019), who argued adopting e-commerce platforms not only opens markets for businesses but also results in enhanced consumer engagement. Maina (2016) also demonstrated that firms' adoption of e-commerce technologies resulted in enhanced resource use.

4.2 Inferential Statistics

The model of fitness is presented in Table 6 below

Table 6: Model Fitness

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .244 ^a | .059 | .019 | .668 |

Table 6 above indicates a multiple correlation coefficient, as demonstrated by the R-value of 24.4%. This indicated a positive relationship between the predictor variables, including e-commerce adoption and the performance of Minjingu Mines & Fertilizer Limited. A coefficient determination of 5.9% denoted by R-square also demonstrated a variance between the study's constants. The model demonstrates that the variability in increasing the performance of Minjingu Mines & Fertilizer Limited was accounted for by the predictor variables in e-commerce adoption. The remaining percentage can be credited to random fluctuations and other variables not specified in this investigation.

Table 7 presents the analysis of Variance (ANOVA)

Table 7: Analysis Of Variance (ANOVA)

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1 | Regression | 2.654 | 4 | .664 | 1.486 | .000 ^b |
| | Residual | 41.972 | 94 | .447 | | |
| | Total | 44.626 | 98 | | | |

Table 7 above demonstrates a significant F-statistics at F (1.486) with a significance of 0.002. The results are an indication that the model was instrumental in expounding the relationship between the variables used in the investigation, including e-commerce adoption as a payment option, marketing and communication platform, distribution channel, and procurement platform as the independent variable, and the performance of Minjingu Mines & Fertilizer Limited as the dependent variable.

The regression of coefficients are presented in Table 8

Table 8: Regression of Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|----------------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.812 | .595 | | 4.729 | .000 |
| | payment_option | .204 | .111 | .198 | 1.845 | .006 |
| | marketing | .391 | .306 | .262 | 1.280 | .002 |
| | procurement_platform | -.058 | .135 | -.045 | -.429 | .066 |
| | distribution_channel | -.202 | .360 | -.113 | -.559 | .057 |

Performance = 2.812 + 0.391 marketing and communication + 0.204 payment option - 0.202 distribution channel - 0.058 procurement platform.

The results from Table 8 shows that payment option was positively and significantly related to performance ($\beta = .204$, $p = 0.006$). This meant that a unitary improvement in payment option leads to an increase in performance by 0.204 units holding other factors constant. Similarly, marketing

was positively and significantly related to performance ($\beta=.391$, $p=0.002$). This meant that a unitary improvement in marketing leads to an increase in performance by 0.391 units holding other factors constant. Procurement platform and performance was negatively and insignificantly related to performance ($\beta=-.058$, $p=0.066$). This meant that a unitary increase in Procurement platform leads to a decrease in performance by 0.058 units holding other factors constant. Lastly, distribution channel and performance was negatively and insignificantly related to performance ($\beta=-.202$, $p=0.057$). This implied that a unitary increase distribution channel leads to a decrease in performance by 0.0202 units holding other factors constant. The results are supported by those observed by Wisdom (2015), who demonstrated that online marketing's adoption had a positive and significant impact on organizations' performance. Adede, Kibera, and Owino (2017) in their study further support the results of this investigation as they argue on the importance of social media marketing. Maina (2017) demonstrated a positive correlation existed between electronic marketing and business performance across various industries. Also, Bandi, Moreno, Ngwe, and Xu (2019) revealed that electronic payment options not only enhanced consumer satisfaction but also resulted in efficient business operations.

5.0 CONCLUSION

The investigation concluded that the adoption of e-commerce as a distribution channel had no considerable impact on the performance of Minjingu Mines & Fertilizer Limited. The conclusion of the study also revealed that adoption of e-commerce as a procurement platform has no impact on the performance. The study also concluded that the adoption of e-commerce as a payment option was the second most significant predictor of performance at Minjingu Mines & Fertilizer Limited. Finally, the investigational also made the conclusion that the adoption of e-commerce as a marketing and communication platform is the most significant predictor variable for performance at Minjingu Mines & Fertilizer Limited

6.0 RECOMMENDATIONS

Based on the findings, the study recommended for the institution not to focus on the adoption of e-commerce as a distribution channel. This is because the platform was observed to have no considerable impact on the performance of the firm. Similarly, the organization should also not focus its effort on adopting e-commerce as a procurement platform due to its limited to no impact on the firm's performance. The study recommended an increase use in debit and credit cards as payment options allowing clients to securely and efficiently complete business transactions with the firm. With the rise in mobile payment, it is also recommended that the organization needs to increase its use of mobile payment approaches to help it enhance its business performance. The study further recommended is also made to the the firm need to increase its social media use for advertisements to realize the desired performance. There is need for the organization to increase its email marketing approach to help personalize its marketing approach and enhance its performance. Increasing its online presence through effective search engine optimization is another key approach to helping the institution realize increased performance.

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