
**Shipping Costs And Its Impact On Profitability Of Small And Medium Enterprises In Uganda, A Case Study
Of Mukwano Company Limited**

Abaho Joshua¹, Ngumenawe Moses²

1, 2 Metropolitan International University

ABSTRACT

The purpose of the study was to examine the effects of shipping costs on profitability of small and medium enterprises in Uganda. It was based on the following objectives; To assess the impact of shipping distance on Mukwano Company, to find out the influence of shipping mode on Mukwano Company limited and to assess the significance of product value in SME profitability. This study was conducted in Mukwano company limited Uganda. The company is near Kibuli, Nsambya. This study took a period of three months' time period beginning. The study looked at the theoretical review, explained the empirical findings of the objectives of the study and the literature gaps. The study population was 140 respondents and of which they were selected from different departments in the Company, a sample size of 100 respondents, represented 100% of the target population, the sample size was determined using the table of Krejcie and Morgan, 1970. Mukwano Company should not give free deliveries to its customer who are having long shipping distance. Shipping mode showed a moderate positive correlation ($r=0.605$, $p=0.000$) with profitability, suggesting shorter-distance modes enhance earnings. Product value yielded a stronger correlation ($r=0.548$, $p=0.000$), indicating higher value goods boost margins. Both relationships were statistically significant. Empirical evidence supports shipping efficiency and portfolio optimization as empirically meaningful for SME financial performance. While experimental research is still needed, insights may guide strategic decision-making, policy interventions, and future pilot interventions to foster increased profitability. Long shipping distance are expensive and because of this, the company can incur a lot of costs which increases the average costs of the Company. This reduces its profit margin hence low profitability.

Keywords: shipping distance, shipping mode, product value and profitability

Background of the Study

The global economic landscape has undergone a transformational shift towards increased globalization, which presents both opportunities and challenges for businesses worldwide (Faridah et al., 2023). Small and medium-sized enterprises (SMEs) have become key players in this interconnected environment, contributing significantly to economic growth and employment (Christopher et al., 2022). As these businesses engage in cross-border trade, the effects of transport costs on their profitability have become central to research and strategic considerations (Annet et al., 2023). In Uganda, SMEs form a critical component of the economy and contribute significantly to employment and economic growth (Frank et al., 2023). As a landlocked country, Uganda faces significant challenges related to transport costs, including dependence on road and rail networks due to constraints on international trade and infrastructure (Faith et al., 2023). Mitigating these challenges requires a nuanced understanding of the local economic context and the strategic use of available transportation networks (Benard, 2023). the effects of transport costs on SME profitability resonate at different geographic levels, from the global arena to the national context,

Received: 14.05.2024

Accepted: 21.05.2024

Published on: 30.05.2024

reflecting the complex interplay between global economic dynamics and local operational challenges (Musaibah et al., 2023). Addressing these challenges requires a comprehensive understanding of the specific contexts in which SMEs operate.

Problem Statement

In Uganda, SMEs are a key component of the national economy. As a landlocked country, reliance on road and rail networks for international trade brings specific challenges related to transport costs, Ministry of Trade, Industry and Cooperatives (Turyatamba et al., 2022). The infrastructural constraints and logistical complexities faced by Ugandan SMEs require targeted interventions to increase their profitability and competitiveness on a global scale (Annet et al., 2023). Expected causes of the problem include; Limited access to maritime transport options increases logistical complexity and transport costs for SMEs, insufficient transport infrastructure presents challenges in efficient transport and contributes to delays and increased costs (Musimenta et al., 2017). The following solutions have been implemented to mitigate the problem; prioritizing and investing in the development of transport infrastructure to reduce delays and increase the efficiency of shipping processes, explore and create diversified shipping routes to reduce dependence on a single regional port (Musimenta et al., 2017). Solving these challenges requires a comprehensive understanding of the complex dynamics at each level and the formulation of targeted strategies that will enable SMEs to navigate the complexity of transport costs and increase their global competitiveness (Ronet et al., 2023). This necessitated a research study on the effects of transport costs and profitability of SMEs in Uganda.

Objective of the study

1. To assess the impact of shipping distance on profitability of small and medium enterprises
2. To find out the influence of shipping mode on profitability of small and medium enterprises
3. To assess the significance of product value on profitability of small and medium enterprises

Methodology

The researcher used descriptive research that included both qualitative and quantitative research techniques (Anwar et al., 2022). This was chosen as the most appropriate research strategy. (A & Ahmed, 2019) define a case study as “a strategy for conducting research that involves empirically examining a specific contemporary phenomenon in its real-life context using multiple sources of evidence” (Jallow et al., 2021). This was well suited to the author's intention to investigate a real problem using different methods of data collection. (L. A. Nafiu et al., 2013) suggests the suitability of a case study when the work focuses on a set of problems in one organization. The qualitative research design was descriptive in nature and therefore allowed the researcher to meet the objectives of the study (Jallow et al., 2021). A statement was used to assign variables that were not adequately measured using numbers and statistics. A quantitative research design was used in the form of mathematical numbers and statistics assigned to variables that were not easily measured by statements or theme. The study group consisted of 140 respondents, from which they were selected from different departments in small and medium-sized enterprises and other people from the field who can be of great importance in providing information that can support the study (L. A. Nafiu et al., 2013). The researcher worked with a population sample of 100 people who were selected as representatives of the

Received: 14.05.2024

Accepted: 21.05.2024

Published on: 30.05.2024

population. (Olanrewaju et al., 2021) observed that collecting data from the entire population would be practically impossible and it would be very difficult to examine every element in the population. A study sample is likely to provide more reliable and faster results because fewer errors are made during data collection. Simple random and stratified sampling was used in the study (L. Nafiu et al., 2013). The aim was to get the entire population into the study center and this was done with an equal and independent chance of all people being included in the sample. For the purpose of this study, a sample size of 100 respondents representing 100% of the target population was used for the study, the sample size was determined using Krejcie and Morgan, 1970 table (L.A. Nafiu, 2012). The sample size was also considered both statistically and non-statistically and the nature of the population was homogeneous and thus small. The questionnaires were designed to reflect the objectives of the study. Structured and unstructured questions were used to obtain data from the field. Closed-ended questions were included in the data collection from respondents. The collected data were reduced to manageable proportions and summarized to yield the required numbers of this study (L. A. Nafiu et al., 2017). Coding was required to classify responses into meaningful data and tables. After the data were collected from the field, they were edited to ensure accuracy, consistency, and completeness. Processing was therefore based on editing to check for errors and omissions to ensure accuracy and consistency where objective judgment would be reached. After collecting all the necessary data, the data were coded and edited, analyzed and reformulated to eliminate errors and ensure consistency (L. A. Nafiu et al., 2017). This involved categorizing, discussing, classifying and summarizing the responses to each question in coding frames based on the various responses. This should make it easier to work on tables. It helped eliminate adverse reactions that were considered insignificant. Data obtained from the field using study tools were classified into meaningful categories. This allowed the researcher to derive basic patterns from the data that organize the presentation (L. A. Nafiu et al., 2012). Data were analyzed by tables, frequencies, percentages and frequencies using SPSS & STATA (Nelson et al., 2022).

RESULTS

Table 1: Correlation Results for shipping distance and Profitability of small and medium enterprises

		shipping distance	Profitability of small and medium enterprises
shipping distance	Pearson Correlation	1	.819**
	Sig. (2-tailed)		.000
	N	100	100

Profitability of small and medium enterprises	Pearson Correlation	.819**	1
	Sig. (2-tailed)	.000	
	N	100	100

** . Correlation is significant at the 0.01 level (2-tailed); Source: **Field Data**, 2024

The results presented in Table 1 show a strong positive correlation between shipping distance and the profitability of small and medium enterprises based on a sample size of 100, as evidenced by a Pearson correlation coefficient of 0.819 and a significance value of 0.000 (Nelson et al., 2023), which is less than 0.01, indicating that as the shipping distance increases, the profitability of small and medium enterprises also tends to increase significantly according to the field data collected in 2024, with the correlation being highly statistically significant at the 0.01 level using a two-tailed test; conversely, the profitability of small and medium enterprises also has a very strong positive correlation with itself, given a correlation coefficient of 1 and insignificant p-value, since both variables are essentially measuring the same core construct in this analysis of the relationship between transportation logistics factors and business financial performance for small and medium scale companies.

Table 2: Correlation Results for shipping distance and Profitability of small and medium enterprises

		shipping mode	Profitability of small and medium enterprises
shipping mode	Pearson Correlation	1	.605**
	Sig. (2-tailed)		.000
	N	100	100
Profitability of small and medium enterprises	Pearson Correlation	.605**	1
	Sig. (2-tailed)	.000	
	N	100	100

** . Correlation is significant at the 0.01 level (2-tailed); Source: **Field Data**, 2024

Table 2 shows the correlation results for the relationship between shipping distance and the profitability of small and medium enterprises that use different shipping modes. It presents the Pearson correlation coefficients and significance values for the correlations between shipping mode and the profitability of small and medium enterprises, based on field data collected in 2024 from 100 small and medium enterprise respondents (Ronald et al.,

Received: 14.05.2024

Accepted: 21.05.2024

Published on: 30.05.2024

2023). The correlation between shipping mode and profitability of small and medium enterprises is positive and statistically significant, with a Pearson correlation coefficient of .605 and a significance value of .000, which is below the standard .01 level. This indicates that there is a moderate positive linear relationship between the shipping mode used and the profitability achieved by small and medium enterprises, and that this relationship is highly unlikely to have occurred by chance. Specifically, it suggests that small and medium enterprises which utilize shipping modes associated with shorter distances tend to have higher profitability levels on average compared to those using modes linked to longer shipping distances.

Table 3: Correlation Results for product value and Profitability of small and medium enterprises

		product value	Profitability of small and medium enterprises
product value	Pearson Correlation	1	.548**
	Sig. (2-tailed)		.000
	N	100	100
Profitability of small and medium enterprises	Pearson Correlation	.548**	1
	Sig. (2-tailed)	.000	
	N	100	100

** . Correlation is significant at the 0.01 level (2-tailed); Source: **Field Data**, 2024

Table 3 reports the correlation findings between product value and the profitability of small and medium enterprises, based on field data collected from 100 SME respondents in 2024. It shows the Pearson correlation coefficient and significance value for the relationships between product value and SME profitability. The correlation between product value and SME profitability is positive and highly statistically significant, with a Pearson's r value of 0.548 and a significance level of 0.000, which is below the standard 0.01 cut-off (Annet et al., 2023). This indicates that there exists a moderate positive linear association between the value of products handled by SMEs and their realized profitability levels. Specifically, it suggests that on average, SMEs dealing in higher value products tend to achieve higher profitability compared to those involved in lower value products, according to this field data. The results further display that this correlation is very unlikely to have occurred due to chance.

Conclusions

The findings from Tables 2 and 3 provide useful insights into factors that influence the profitability of small and medium enterprises. Both tables examined the relationship between SME profitability and various business parameters using correlation analysis on primary field data collected from 100 SME respondents. The results in Table 2 showed a moderate positive correlation between shipping mode and SME profitability. This indicates that SMEs which use shipping modes associated with shorter distances on average experience higher levels of profits. Opting for cost-effective transportation alternatives may thus help improve the bottom line of small businesses (Lydia et al., 2023). Table 3 revealed an even stronger positive correlation between product value and SME profitability. Specifically, firms dealing in higher value goods tend to be more profitable than those handling lower value products (Faridah et al., 2023). This implies that SMEs can boost revenues and margins by focusing their offerings on premium market segments if feasible. Therefore, the statistically significant correlations observed provide empirical support that transport efficiency and product pricing strategies impact the financial performance of small businesses (Alex & Kazaara, 2023). The moderate to strong effect sizes also confirm the practical relevance of these relationships. However, as this was a correlational study based on a specific sample, definitive conclusions about causality cannot be made. Future experimental research would be needed to establish whether manipulating the correlates truly enhances SME profitability over time. Additionally, qualitative data could aid understanding of contextual drivers behind the identified quantitative patterns.

Recommendations

Mukwano Company limited should lay out strategies that can help in incurring low shipping costs with the aim improving on its productivity. This is because most of the times, the value of the product determines the shipping mode to use.

Mukwano Company should not give free deliveries to its customer who are having long shipping destine. Long shipping distance are expensive and because of this, the company can incur a lot of costs which increases the average costs of the Company. This reduces its profit margin hence low profitability. Firstly, for SME owners and managers, carefully evaluating transportation options and selecting shipping methods associated with shorter distances could help optimize costs and boost the bottom line over the long run. Investigating partnerships with logistics companies providing efficient multimodal services may lower shipping expenditures. Similarly, periodically benchmarking product prices against competitors and selectively raising rates for higher value offerings based on demand elasticity could enhance revenues.

Secondly, government agencies and development organizations aiming to foster SME growth should facilitate affordable transport infrastructure development and modernization. Facilitating integrated freight hubs connecting various modes could shorten delivery times. Subsidizing transportation and warehousing for remote rural firms may level accessibility. Supporting market research and pricing strategy training could equip entrepreneurs with insights

for portfolio optimization. Additionally, industry associations may play a role through collaborative procurement of cost-effective transportation. Organizing periodic trade shows could help SMEs expand into new premium segments. Mentorship programs pairing experienced executives with start-ups may aid strategic decision making around operations, products and finances over the long term.

References

- A, S. M. D. A. U. Y. N. L., & Ahmed, H. O. (2019). *On a Semi-Markov Model for Stock Exchange using Capital Assets*. 6(1), 138–144.
- Alex, I., & Kazaara, A. G. (2023). *Internal Controls and Financial Performance of Saccos in Wakiso District*. 7(3), 47–56.
- Annet, N., Andrew, N., Kazaara, A. G., Christopher, F., & Moses, N. (2023). *Impact of Budgeting On the Profitability of a Manufacturing Company , a Case Study of Harris International*. 7(2), 112–126.
- Anwar, S. M., Komal, S., Cheema, A. N., Abiodun, N. L., Rasheed, Z., & Khan, M. (2022). *Efficient Control Charting Scheme for the Process Location with Application in Automobile Industry*. 2022.
- Benard, S. (2023). THE EFFECT OF PRODUCT QUALITY ON COMPETITIVENESS OF SMALL MEDIUM-SIZED ENTERPRISES (SMES) IN WESTERN UGANDA; REFLECTION ON IGARA TEA FACTORY, IN BUSHENYI DISTRICT. In *METROPOLITAN JOURNAL OF BUSINESS & ECONOMICS (MJBEE)* (Vol. 2, Issue 6).
- Christopher, T., Nelson, K., & Prudence, K. (2022). The Impact of Foreign Direct Investment on Economic Growth in Uganda-A Case Study of Kampala District. In *International Journal of Academic Multidisciplinary Research* (Vol. 6). www.ijeais.org/ijamr
- Faith, K., Kalikola, J., Ariyo, D., Kazaara, G., Catherine, M., & Ismail, L. (2023). The Effects of Public Sector Monitoring and Evaluation on Promoting Good Governance in Uganda: A Case Study of the Ministry Of Local Government. In *International Journal of Academic Pedagogical Research* (Vol. 7). www.ijeais.org/ijapr
- Faridah, K., Kazaara, A. G., & Kazaara, A. I. (2023). *The Effect Of Supplier Selection On Product Quality Management In Organizations . A Case Study Of Uganda Wild Life*. 7(3), 307–317.
- Frank, M., Nelson, K., Ariyo, D., Kazaara, G., Deus, T., Christopher, F., & Catherine, M. (2023). The Macroeconomic Determinants of Economic Growth in Uganda a Case Study Of Wakiso Distict. In *International Journal of Academic and Applied Research* (Vol. 7). www.ijeais.org/ijaar

Received: 14.05.2024

Accepted: 21.05.2024

Published on: 30.05.2024

- Jallow, M. A., Weke, P., Nafiu, L. A., & Ogutu, C. (2021). *APPLICATION OF A DISCRETE-TIME SEMI-MARKOV MODEL TO THE STOCHASTIC FORECASTING OF CAPITAL ASSETS AS STOCK* Department of Mathematics School of Mathematics University of Nairobi Department of Mathematics and Statistics. 63(1), 1–18.
- Lydia, N., Ariyo, D., Kazaara, G., Kazaara, A. I., Brenda, T., Moses, N., & Bafaki, G. (2023). Promotion of Small-Scale Industries and Development of Business. A Case Study; Masafu Subcounty (Busia). In *International Journal of Academic Multidisciplinary Research* (Vol. 7). www.ijeais.org/ijamr
- Musaibah, N., Kazaara, A. G., Kazaara, A. I., & Deus, T. (2023). *The Organizational Factors Affecting Employee Performance in Non-Governmental Organizations in Uganda . A Case Study of the Uganda Women Parliamentary Association*. 7(3), 221–231.
- Musimenta, D., Nkundabanyanga, S. K., Muhwezi, M., Akankunda, B., & Nalukenge, I. (2017). Tax compliance of small and medium enterprises: a developing country perspective. *Journal of Financial Regulation and Compliance*, 25(2), 149–175. <https://doi.org/10.1108/JFRC-08-2016-0065>
- Nafiu, L. A. (2012). *On an Alternative Estimator in One-Stage Cluster Sampling Using Finite Population*. 2(7), 102–107.
- Nafiu, L. A., Oshungade, I. O., & Adewara, A. A. (2012). *Alternative Estimation Method for a Three-Stage Cluster Sampling in Finite Population*. 2(6), 199–205. <https://doi.org/10.5923/j.ajms.20120206.06>
- Nafiu, L. A., Oshungade, I. O., & Adewara, A. A. (2013). *GENERALIZATION OF MULTISTAGE CLUSTER SAMPLING USING FINITE POPULATION*. 3(1), 17–20.
- Nafiu, L. A., Ph, D., Ibitayo, L. D., Ph, D., Muyombya, S. M., & Sc, M. (2017). *On Empirical Power of Univariate Normality Tests under Symmetric , Asymmetric , and Scaled Distributions .* 18(1), 90–96.
- Nafiu, L., Lanlege, D., & Hakimi, D. (2013). *Statistical analysis of knowledge and awareness to universal basic education in Nigeria*. 1(3), 28–35. <https://doi.org/10.11648/j.sjedu.20130103.11>
- Nelson, K., Christopher, F., & Milton, N. (2022). *Teach Yourself Spss and Stata*. 6(7), 84–122.
- Nelson, K., Kazaara, A. G., & Kazaara, A. I. (2023). *Teach Yourself E-Views*. 7(3), 124–145.
- Olanrewaju, R. O., Waititu, A. G., & Abiodun, N. L. (2021). *Fréchet Random Noise for k -Regime-Switching Mixture Autoregressive Model*. 11(1), 1–10. <https://doi.org/10.5923/j.ajms.20211101.01>

Ronald, K., Kazaara, A. G., Ismail, L., & Micheal, T. (2023). The Impact Of Privately Owned Enterprises On The Economic Development Of Communities In Uganda. A Case Study Of Masaka City. In *International Journal of Academic Pedagogical Research* (Vol. 7). www.ijeais.org/ijapr

Ronet, C., Micheal, T., Kazaara, A. G., Nelson, K., & Ismail, L. (2023). *Assessing of the Impact of Stock Controls on Management of Costs in Organizations ; a Case Study of Mukwano Group of Companies*. 7(2), 160–178.

Turyatamba, C., Nelson, K., Prudence, K., & Ntirandekura, M. (2022). *The Effect of Product Quality on Competitiveness of Small Medium-Sized Enterprises (SMES) In South Western Uganda ; Reflection on Kayonza Growers Tea Factory , In Kanungu District .* 6(12), 152–159.