

Trade Facilitation and Innovativeness: Cottage Industry Development in Uganda

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Abstract: This study investigates the combined effects of trade facilitation and innovativeness on the development of cottage industries in Kampala City, Uganda. The research was motivated by the increasing relevance of cottage industries as engines of inclusive growth and the need to enhance their competitiveness and sustainability in developing economies. Anchored in the Resource-Based View (RBV) and New Institutional Economics (NIE) theories, the study conceptualizes trade facilitation and innovation as strategic and institutional enablers of firm performance. A cross-sectional mixed-methods design was employed, utilizing both quantitative and qualitative data collected from 250 cottage industry operators using stratified random and purposive sampling techniques. Results from Pearson correlation and regression analyses revealed significant and positive relationships between both trade facilitation ($\beta = .41, p < .01$) and innovativeness ($\beta = .361, p < .01$) with cottage industry development, jointly explaining 51.4% of the variation. Thematic analysis of qualitative data reinforced these findings, with participants highlighting how improved logistics, streamlined trade processes, and innovation in product development drive expansion, market access, and competitiveness. The study underscores the need for integrated policies that promote innovation ecosystems and remove institutional barriers to trade. Recommendations include investment in infrastructure, digital trade platforms, training in innovation practices, and stronger linkages between industry and support institutions to realize sustainable cottage industry growth.

Keywords: *Trade facilitation, innovativeness, cottage industry development, Uganda*

1. Background

Ugandan cottage industries serve as a vital instrument for inclusive economic growth because they help micro and small-scale entrepreneurs operating in informal settings. The enterprises offer employment opportunities and generate income while driving grassroots industrialization, which supports both Vision 2040 and National Development Plan III (NPA, 2020; UBOS, 2021). Small-scale industries throughout the world function as key drivers for accelerating innovation and production diversification while leading community development initiatives, according to the World Bank (2020). Uganda's cottage industry sector faces ongoing obstacles that restrict its ability to expand while maintaining market connections and sustaining operations for the long term (Mutambi, 2016; MTIC, 2020). The sector faces trade facilitation constraints because of inadequate logistics infrastructure and inefficient customs systems, and bureaucratic bottlenecks that block access to regional and international markets (UNCTAD, 2021; Hoekman & Shepherd, 2013). The restricted use of digitization, together with insufficient value addition and research and development practices, creates barriers to productivity and competitiveness, which threaten the long-term viability of these businesses (OECD, 2005; Zhou et al., 2017). Low-income economies benefit from trade facilitation initiatives because these programs improve business performance while integrating them into value chains through efficient customs procedures and infrastructure investment, and regulatory environment improvements (Arvis et al., 2010; WTO, 2015a).

Small businesses that practice innovation gain better resilience, together with adaptability to compete effectively in dynamic markets by reducing costs and differentiating their products (Liu & Xie, 2020; Sibanda et al., 2018). Research about Uganda's cottage industries requires further exploration to understand how trade facilitation interacts with innovation within the informal and semi-formal enterprise landscape. Most existing studies investigate manufacturing and export-led sectors, yet there is insufficient empirical research about trade facilitation and innovation impacts on Uganda's cottage industries (Aye, 2022; Olyanga et al., 2022). The development of Uganda's cottage industry sector requires a deeper analysis of the relationships between trade facilitation and innovation to achieve its goals of economic transformation through industrialization,

entrepreneurship, and value addition. This research analyzes the separate effects and combined impact of these two variables on the growth and sustainability, along with the productivity levels of Uganda's cottage industries.

2. Literature Review

Theoretical and Empirical Literature Review

The research draws its foundation from the Resource-Based View (RBV) alongside the New Institutional Economics (NIE) theory. The Resource-Based View theory developed by Barney (1991) demonstrates that firm performance depends on its resources and capabilities, which must be valuable, rare, inimitable, and non-substitutable. The strategic resources of trade facilitation and innovation play a vital role in enhancing both competitive advantage and sustainability for cottage industries. Through innovation, these enterprises develop unique products and services while trade facilitation enables efficient product movement and market access (Wernerfelt, 2020; Peteraf & Barney, 2018; Teece, 2018). New Institutional Economics theory, developed by North (1990), shows that economic performance depends on both formal institutions (regulations, trade policies) and informal institutions (norms, networks). The theory helps explain how institutional arrangements, such as simplified customs procedures and trade policies, affect cottage industry development trajectories. The institutional inefficiencies create obstacles to growth even when small-scale industries demonstrate entrepreneurial potential, according to Williamson (2000) and Acemoglu and Robinson (2019), and Rodrik (2021). The current research indicates that NIE remains crucial for studying institutional barriers and their relationship with entrepreneurial environments in developing nations. The research by Alinaghian et al. (2022) shows that institutional quality affects value chain efficiency, and Aigbokhan et al. (2021) demonstrate that policy stability is essential for micro-enterprise success. The research uses RBV and NIE together to create a complete framework that shows how internal firm capabilities (innovativeness) and external environmental structures (trade facilitation) work together to affect cottage industry growth and sustainability.

Trade Facilitation and Cottage Industry Development

Trade facilitation refers to the set of reforms that aim to simplify and harmonize trade procedures, reduce transaction costs, and improve logistical infrastructure (Grainger, 2007; UNCTAD, 2021). Studies have shown that effective customs procedures, clear regulations, and good infrastructure are crucial for micro and small enterprises to access regional and international markets (Hoekman & Shepherd, 2013; WTO, 2015a). Arvis et al. (2010) observed that enhanced trade logistics enhance supply chain performance, particularly for firms that handle time-sensitive production, such as perishable goods in rural industries. Aye (2022) in Sub-Saharan Africa established that trade facilitation reforms lead to firm growth by lowering costs and expanding market opportunities. The World Bank (2020) also observed that better border efficiency has important implications for enterprise survival, particularly for informal enterprises. The World Bank (2020) also observed that harmonized regional trade policies lead to smoother cross-border transactions, reduce informality, and stimulate market diversification (Beverelli, Neumueller, & Teh, 2015). UNESCAP (2022) noted that small-scale producers in landlocked countries gain substantially in terms of income and market access when they are supported by efficient logistics and digital trade documentation. Farole and Winkler (2014) also pointed out that trade-related infrastructure, including digital systems and ports, is a critical factor in the performance of small-scale producers. Alarcón and Stasavage (2020) established that better transparency in customs and regulatory frameworks leads to higher participation of small firms in cross-border trade and thus enhances local enterprise resilience. However, the focus of much literature is still on formal SMEs, which leaves a gap in understanding how such trade reforms affect the grassroots level of cottage industries (Mutambi, 2016; Olayemi et al., 2023). Furthermore, gendered trade barriers and limited digital inclusion remain barriers to the full potential of women-led cottage industries to benefit from trade facilitation (ITC, 2021).

Innovativeness and Cottage Industry Development

Firms possess the ability to introduce new products along with modern technologies while continuously enhancing their operational processes (OECD, 2005). Small-scale enterprises depend on innovation to compete effectively while achieving operational efficiency and market adaptability (Sibanda et al., 2018; Zhou et al., 2017). Microenterprises use technological innovation to enhance their production and marketing capabilities, which enables them to create new product lines and improve quality while establishing brand recognition

(Amoako et al., 2020). Research shows that firms that innovate achieve superior results in both financial and non-financial aspects. Liu and Xie (2020) show how innovation strengthens both export competitiveness and productivity within China's manufacturing industry. Olyanga et al. (2022) discovered that East African SMEs, including informal businesses, link innovation directly to their export readiness in their research. Setyaningrum et al. (2023) established that institutions enabling innovation adoption lead to the sustainable development of MSMEs over time. Innovation within the informal sector creates opportunities for economic growth that is both inclusive and generates employment opportunities, according to Mugisa et al. (2021). Agyei (2019) proved that small-scale manufacturing enterprises achieve better customer loyalty and revenue growth through innovations in packaging and product design as well as customer service delivery.

Khan et al. (2021) discovered that government support through incubators and technical advice enables rural businesses to commercialize their innovative products. The collaborative innovation networks that women entrepreneurs established in Kenya, according to Nambiro and Oloo (2023), resulted in better market penetration along with operational stability. The adoption of innovation by Uganda's cottage industries remains low because they face barriers such as restricted training access and insufficient funding and research institution connections, and insufficient policy incentives (MTIC, 2020; Kibirige & Turyakira, 2020). Weak innovation ecosystems that fail to unite academic institutions with industries and policy-makers present an ongoing obstacle (Wanyama & Musoke, 2023). Research now shows that cottage industries can make greater contributions to Uganda's development goals by improving their innovation potential through training initiatives and collaborative partnerships with institutional support.

3. Methodology

This research applied a cross-sectional survey approach, which combined quantitative and qualitative data collection methods to study trade facilitation effects on innovativeness and cottage industry growth in Uganda. The mixed-methods approach strengthened findings by using triangulation, which confirmed statistical outcomes through qualitative context (Creswell & Plano Clark, 2017). The target population consisted of cottage industry operators who operated within Kampala City's five divisions, especially those who worked in herbal medicine, woodworking, soap making, shoe production, and metal fabrication. Stratified random sampling selected 250 participants to achieve equitable representation of different sub-sectors. The researcher applied purposive sampling to obtain key informants who included cottage industry association leaders and government officials. The research tools consisted of a self-administered questionnaire and an interview guide with semi-structured questions. The questionnaire contained sections about respondent demographics and trade facilitation practices as well as innovation strategies and business development indicators based on established research constructs (Liu & Xie, 2020; Khan et al., 2021). The evaluation of trade facilitation involved assessing policy awareness alongside logistics access and transaction cost barriers, as well as customs efficiency. The assessment of innovativeness depended on digital tool adoption, along with product development and value addition, and research and development participation. Cottage industry development was operationalized through profitability, number of employees, size of investment, and product diversity.

The instruments demonstrated valid measurement because experts reviewed them, followed by a 10-participant pilot test outside the main sample population. All study constructs achieved sufficient reliability through Cronbach's Alpha measurements, which produced coefficients above 0.7 (Tavakol & Dennick, 2011). The researcher used SPSS v26 to perform descriptive statistics and Pearson correlation and regression analyses on quantitative data for investigating study variable relationships. Qualitative data underwent thematic analysis to discover repeated patterns and contextual explanations that supported or contradicted the quantitative results (Braun & Clarke, 2006). The research followed strict ethical procedures, which included participant consent collection alongside guaranteeing confidentiality and obtaining necessary approval from an ethical research board following academic standards (Israel & Hay, 2006).

4. Results

Table 1: Characteristics of the respondents

Items		Frequency	Percent
Gender	Male	133	61.9
	Female	82	38.1
	Total	215	100
Marital status	Married	134	62.3
	Single	76	35.3
	Divorced	5	2.3
	Total	215	100
Age bracket	20 and below	2	0.9
	21-30	46	21.4
	31-40	91	42.3
	41-50	53	24.7
	Above 50	23	10.7
	Total	215	100
Highest level of education	Primary	27	12.6
	Secondary	50	23.3
	College	16	7.4
	Diploma	63	29.3
	Bachelors	52	24.2
	Others	7	3.3
	Total	215	100

Source: Primary data

In terms of gender, the majority of respondents are male, representing 61.9%, suggesting that men are more involved in the cottage industry sector. Policies might need to consider how to make trade processes more inclusive for women, who are a significant minority at 38.1%. Encouraging female participation could drive innovation and diversify the cottage industry.

In relation to marital status, the high percentage of married individuals (62.3%) suggests a high stability and a higher level of commitment to business endeavors. Trade facilitation measures could focus on supporting family-owned cottage industries, which may benefit from initiatives aimed at 35.3%, indicating more flexibility and openness to innovative practices. Facilitating trade for this group could involve providing access to new technologies and training to foster innovation. And finally, the divorced constitute the least number with 2.3%. Considering age bracket most of the respondents are aged 31-40 with 43.1%, followed by 41-50 years with 24.7%, then 21-30 years with 21.4%, those above 50 years with 10.7% and lastly those below of 20 years and below with 0.9% an implication that older respondents are significantly involved, indicating a blend of experience and stability hence a potential gap in youth engagement.

The educational background of respondents involved in Uganda's cottage industry reveals a diverse skill set, with a notable concentration of individuals holding diplomas (29.3%), bachelor's degrees (24.2%), secondary education (23.3%) and primary education (12.6%) which suggests that the cottage industry has a workforce that is relatively well-educated and capable of implementing sophisticated techniques and innovative practices. The smaller percentages of respondents with college education (7.4%) and other forms of training (3.3%) highlight the potential for further specialized training to enhance skills. This educational diversity supports the development of the cottage industry by combining traditional skills with modern knowledge, fostering innovation, and enabling adaptability in a competitive market.

Table 2: Business characteristics

Items		Frequency	Percent
Current age of the business	Less than 2 years	153	71.2
	2-5 years	22	10.2
	6-10years	2	0.9
	More than 10 years	38	17.7
	Total	215	100
Type of business	Sole proprietorship	150	69.8
	Partnership	64	29.8
	Total	215	100
Current number of employees	Less than 5 years	173	80.5
	6-10years	33	15.3
	11-15years	5	2.3
	16-20 years	2	0.9
	Total	215	100
Kind of business activity	Soap making	8	3.7
	Shoe production	53	24.7
	Herbal medicine	47	21.9
	Woodwork	73	34
	Metal fabrication	34	15.8
	Total	215	100
Level of your daily business income	Under 50,000=	47	21.9
	50,000= to less than 100,000=	77	35.8
	100,000= to less than 300,000=	81	37.7
	300,000= to less than 500,000=	6	2.8
	500,000= or more	4	1.9
	Total	215	100

Source: Primary data

Age of the business

The data shows that a substantial majority of cottage industries in Uganda are relatively new, with 71.2% of businesses being less than two years old. This suggests a recent surge in the establishment of cottage industries, possibly driven by favorable policies or economic conditions encouraging entrepreneurship. The small percentages of businesses that have been operating for 2-5 years (10.2%) and 6-10 years (0.9%) indicate high turnover or challenges in sustainability. However, the 17.7% of businesses that have operated for more than ten years demonstrate the potential for longevity and stability in this sector. This trend highlights the need for support systems to help newer businesses survive and thrive, contributing to sustained economic development.

Type of business

The majority of cottage industries operate as sole proprietorships (69.8%), indicating that individual entrepreneurs are the primary drivers of this sector. This could reflect the ease of starting and managing a sole proprietorship compared to other business forms. Partnerships, comprising 29.8%, suggest collaboration but

are less common. Encouraging partnerships could enhance resource pooling and risk-sharing, fostering growth and innovation in the cottage industry. These insights can inform policies aimed at providing support structures, training, and incentives to both individual entrepreneurs and partnerships.

Current number of employees

A significant proportion of cottage industries (80.5%) employ fewer than five people, indicating that these businesses are predominantly small-scale operations. This is typically characterized by minimal capital and labor inputs. The presence of slightly larger businesses with 6-10 employees (15.3%) and very few with 11-15 (2.3%) and 16-20 (0.9%) employees suggests limited scalability. Policies that provide support for scaling operations, such as access to financing and market expansion opportunities, could help these businesses grow and increase their employment capacity, thereby enhancing their economic impact.

Kind of business activity

Woodwork (34%) and shoe production (24.7%) are the most common activities, followed by herbal medicine (21.9%) and metal fabrication (15.8%). Soap making, at 3.7%, is less common. This diversity indicates varied skill sets and market demands within the cottage industry. Fostering specialization and providing targeted support for each type of activity, such as training programs, market access, and technological advancements, could enhance productivity and innovation across the sector, contributing to overall economic development.

Level of daily income

The majority of businesses have daily incomes ranging from 50,000 to less than 300,000 Ugandan Shillings (73.5%), with a significant portion earning 50,000 to less than 100,000 (35.8%) and 100,000 to less than 300,000 (37.7%). This indicates moderate income levels, suggesting that while these businesses are viable, there is potential for growth. A smaller percentage earn under 50,000 (21.9%) or more than 300,000 (4.7%), showing disparities in income levels. Policies aimed at increasing profitability, such as improving access to markets, providing business development services, and enhancing financial literacy, could help boost incomes and economic stability within the cottage industry.

Table 3: Correlation

	Trade Facilitation	Innovativeness	Cottage industry development
Trade Facilitation	1		
Innovativeness	.745**	1	
Cottage industry development	.679**	.667**	1

** Correlation is significant at the 0.01 level (2-tailed).

There is a positive correlation between Trade Facilitation and Cottage Industry Development. This relationship is at a 99% level of confidence ($r=.679$, $p<.01$). This further indicates that a positive change in trade facilitation is associated with a positive change in the development of cottage industries.

From the qualitative data, the results indicate the following.

Respondent 1: *"From my experience, whenever there are improvements in trade facilitation—like better infrastructure, easier access to markets, or reduced bureaucracy—we see immediate growth in cottage industries. Entrepreneurs can expand production, reach new customers, and even export their goods. It's clear that when trade is made easier, small industries can thrive and grow."*

Respondent 2: *"I've noticed that the more support we get in terms of trade facilitation, the better the development of cottage industries. For example, when transport routes are improved or customs processes become quicker, small-scale producers have a chance to compete more effectively. This leads to more opportunities for local artisans and craftsmen to grow their businesses and even hire more workers."*

The findings, both qualitative and quantitative, highlight a significant positive relationship between trade facilitation and the development of cottage industries. Quantitatively, the correlation coefficient ($r = .679$, $p < .01$) confirms that improvements in trade facilitation are strongly associated with the growth of cottage industries at a 99% confidence level. Qualitative responses further support this, as respondents emphasize how enhanced trade infrastructure, market access, and streamlined processes directly benefit small-scale

producers by enabling expansion, competitiveness, and increased employment opportunities. Together, these insights suggest that fostering trade facilitation is a key driver in promoting the sustainable development of cottage industries.

In addition, the analysis also indicates a positive relationship between Innovativeness and Cottage Industry Development ($r=.667$, $p<.01$), an indication that higher levels of innovativeness are associated with the development of cottage industries. The results are also significant at the 99% level of confidence. The findings were also supported by the qualitative responses, where the respondents indicated;

Respondent 4: *"In my view, innovativeness is crucial for the growth of cottage industries. Whenever we introduce new production techniques or develop unique products, our business tends to expand. This innovation not only attracts more customers but also helps us adapt to market trends, making our cottage industry more competitive."*

Respondent 2: *"I've seen that innovation plays a big role in driving the success of small industries. Whether it's adopting new technology or finding creative ways to cut costs and improve quality, those businesses that focus on being innovative are the ones that stand out and grow. Innovation gives us the edge to move forward and grow in a competitive market."*

Conclusion

The combined qualitative and quantitative findings underscore a strong positive relationship between both trade facilitation and innovativeness with the development of cottage industries. Quantitatively, the correlation coefficients for trade facilitation ($r = .679$, $p < .01$) and innovativeness ($r = .667$, $p < .01$) both indicate significant relationships at a 99% confidence level. The qualitative insights further reinforce these results, as respondents highlight how both improved trade support and a focus on innovation enable cottage industries to thrive, compete, and expand. This suggests that policies aimed at enhancing trade facilitation and fostering innovation are key drivers for the sustainable growth of cottage industries.

Regression Analysis

The regression analysis was performed to confirm the correlation findings and also to explain the predictive power of each independent variable on the dependent variable. The results are indicated in the table below.

Table 4: Regression Table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.845	0.179		4.721	0.000
	Innovativeness	0.341	0.067	0.361	5.064	0.000
	Trade Facilitation	0.444	0.077	0.41	5.738	0.000
R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.	
.720a	0.519	0.514	0.34149	114.377	.000b	

A Dependent Variable: Cottage industry development

a Predictors: (Constant), Trade Facilitation, Innovativeness

An analysis of the results indicates that trade facilitation is a significant predictor of cottage industry development ($\text{Beta}=.41$, $p<.01$). This indicates that for each unit increase in Trade Facilitation, Cottage Industry Development increases by 0.41 units, suggesting that Trade Facilitation has a positive effect on Cottage Industry Development. The t-value for Trade Facilitation is ($t=5.738$), which also shows that Trade Facilitation is a significant predictor of Cottage Industry Development.

For innovativeness, the results indicate that a unit increase in innovativeness would result in a 0.361 unit increase in Cottage industry development ($\text{Beta}=.361$, $t=5.738$) thus confirming a hypothesis that there is a positive significant relationship between Innovativeness and Cottage Industry development.

Further, the analysis also indicates that 51.4% of the variance in Cottage Industry Development can be explained by Innovativeness and Trade Facilitation, meaning that 48.6% of the variance is due to other factors not considered in this study.

From the qualitative responses, the findings indicated that;

Respondent 3: *"Trade facilitation has helped our cottage industry grow. When the process of getting our products to market becomes smoother, we see immediate improvements in our ability to scale up and reach more customers. Without those improvements, we'd be stuck at a smaller level."*

Respondent 1: *"Innovating in our business has been essential. Every time we come up with a new idea or implement new processes, our growth accelerates. It allows us to remain relevant and competitive, even in a crowded market. Innovation is what keeps us moving forward."*

Discussion

The analysis of results demonstrates that theory and empirical evidence match well because trade facilitation and innovativeness play essential roles in cottage industry development in Uganda. The study confirms through the Resource-Based View (RBV) that trade facilitation and innovation serve as strategic assets that boost small enterprise competitiveness and sustainability. The observed statistical relationships, together with qualitative testimonies, demonstrate that internal capabilities and external institutional factors, which NIE theory describes, play a crucial role in business growth. The literature review supports the idea that better logistical infrastructure and regulatory efficiency, and market information access directly benefit small producers by reducing transaction costs and expanding market reach (Grainger, 2007; UNESCAP, 2022). The research shows that innovation through product differentiation and technological adoption, and process enhancement serves as a strong tool for market adaptation and resilience, which supports the findings of Liu and Xie (2020) and Olyanga et al. (2022). The regression model's predictive power demonstrates the practical value of these factors, which supports the need for coordinated policies and institutional approaches that will develop innovation ecosystems and trade facilitation reforms to maximize cottage industry potential.

5. Conclusion and Recommendations

Conclusion: The findings highlight the critical role of both trade facilitation and innovativeness in promoting the growth and development of cottage industries. Respondents consistently emphasized that improved market access and innovative practices directly contribute to expanding their businesses and increasing competitiveness. The analysis suggests that supporting these areas can significantly enhance the potential for growth in the cottage industry sector, while other factors should also be considered for a comprehensive development strategy.

Recommendations: The sustainable development of cottage industries in Uganda requires better trade facilitation through specific infrastructure development and institutional backing. The achievement of these goals requires investments in rural and peri-urban transport networks as well as customs and border process streamlining and the establishment of local trade information centers for small-scale producers. The empowerment of cottage industry operators will occur through improved market accessibility combined with trade fairs and digital trading platforms, which will help them reach more consumers and minimize delivery challenges. The interventions will drive production expansion and supply chain optimization while enabling micro-enterprises to succeed in competitive markets.

The promotion of innovation requires specific capacity building and incentive programs that are tailored to the local context. The training program should deliver practical instruction about value addition and digital tools, eco-friendly production techniques, and entrepreneurship development. Innovation hubs should receive support for development, while local artisans should work with technical institutions to create opportunities through seed grants or innovation funds, which will promote experimental product development. The informal sector should receive policies from policymakers and development partners that provide incentives for creative and technological adaptations. The implementation of these initiatives will boost both domestic and international market performance of Uganda's cottage industries by enhancing their resilience and adaptability.

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