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Article

Enhancing customer retention in manufacturing SMEs through supply chain innovative practices

Management dynamics in the knowledge economy

Provided in Cooperation with:

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Reference: Israel, Baraka (2022). Enhancing customer retention in manufacturing SMEs through supply chain innovative practices. In: Management dynamics in the knowledge economy 10 (3/37), S. 272 - 286.

<https://www.managementdynamics.ro/index.php/journal/article/download/473/452/2059>.

doi:10.2478/mdke-2022-0018.

This Version is available at:

<http://hdl.handle.net/11159/12654>

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Enhancing Customer Retention in Manufacturing SMEs through Supply Chain Innovative Practices

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Received: May 4, 2022
Revised: July 16, 2022
Accepted: August 1, 2022
Published: September 10, 2022

Abstract: Firms have realised that they cannot compete successfully in a marketplace without considering their customers. The impact of Supply Chain Innovative Practices (SCIPs) on customer retention in manufacturing SMEs is not well recognized. This paper aims to examine the extent to which manufacturing SMEs embrace SCIPs and their impact on customer retention. A simple random sampling technique and cross-sectional research design were used. Data were collected from 168 SME owners in Mwanza-Tanzania using a questionnaire survey to test the relevance of transactional cost theory in ascertaining the impact of SCIPs on customer retention. To determine the relationship between SCIPs and customer retention, Multiple Linear Regression was used. The study spotted e-supply chain, customisation, just in time, collaborative SC, reverse logistics, SC configurations, green supply chain, outsourcing and cross-docking as the most SCIPs adopted in manufacturing SMEs. The spotted SCIPs showed a positive link and significant impact on customer retention in Tanzania's manufacturing SMEs. Only reverse logistics had a non-significant impact. SCIPs are important tools for customer retention. Therefore, all actors along the supply chain of manufacturing SMEs should aim at adopting SCIPs to improve performance, satisfy and retain customers. The study enriches the literature by documenting the role of SCIPs in customer retention in manufacturing SMEs.

Keywords: supply chain innovative practices; manufacturing SMEs; customers retentions.

Introduction

Manufacturing SMEs play a healthy and crucial role in a modern and unsettled economic environment. The SMEs are an important ingredient for job and wealth creation, a stimulus for innovation, inclusive growth, and value additions across the regional and global supply chains of goods and services (Lee, 2021; World Bank, 2020). Manufacturing SMEs provide low-skilled goods and services to the public at the least cost and contribute significantly to GDP in many countries. Literature reveals that manufacturing SMEs play an important role in innovation by offering or adjusting existing goods, processes, and systems to meet the customers' needs, despite the complexities they face. Berne and Donaire (2019) and Okpoko et al. (2022) spotted limited resources, knowledge barriers, ineffective collaboration, dynamic market forces, legal complexities, short-term goals, staff's resistance to change and change in consumers' lifestyles as the key issues that impede manufacturing SMEs from effective adoption of innovative practices along the supply chain. Generally, SMEs engage in various activities of the economy, including in the service sector, agribusiness, construction industry, retail and wholesale trade, manufacturing, real estates, imports, and exports. From the spotted categories, manufacturing SMEs have been apparently reported with remarkable effects. Manufacturing SMEs account for an average of 25% of all SMEs, creating value utility and transforming raw materials into a useable state through innovative processes, systems, and practices. About 50% to 60% of the value of goods along the supply chain is generated in manufacturing SMEs (World Bank, 2020; Gurria, 2020).

How to cite

Israel, B. (2022). Enhancing Customer Retention in Manufacturing SMEs through Supply Chain Innovative Practices. *Management Dynamics in the Knowledge Economy*, 10(3), 272-286. DOI 10.2478/mdke-2022-0018
ISSN: 2392-8042 (online)
Journal Abbreviation: *Manag. Dyn. Knowl. Econ.*
www.managementdynamics.ro
<https://content.sciendo.com/view/journals/mdke/mdke-overview.xml>

Tanzania, like other countries, has never under-emphasized the role of manufacturing SMEs in the innovation and economic transformation of the country. Manufacturing SMEs have been recognised as one of the key contributors to Tanzania's 2025 long-term development vision. About 27% of formal SMEs in Tanzania are manufacturing SMEs and contribute about 8% of GDP (World Bank, 2020; National Bureau of Statistics (NBS), 2020; UN, 2020). About 7.1% of the workforce is employed in manufacturing SMEs (UN, 2020). The 2003 Tanzania SMEs Development Policy defines SMEs into three aspects: micro-enterprise with less than 5 employees, small enterprises with 5-49 employees and medium enterprises with 50-99 employees. Large firms are those with more than 100 employees. Despite its role, manufacturing SMEs are facing a number of complexities that impede sustainable performance, growth and development. These include low production capacity, limited access to reliable markets and customers, failure and decline, low competitive advantages and growth rate. The production capacity of manufacturing SMEs is only 50% of large firms and about 60% of SMEs decline in the sixth month after establishment due to one or more constraints (NBS, 2020; World Bank, 2020). The inability to access the markets and retain customers has been marked as one of the critical constraints that significantly contribute to the failure and decline of most SMEs. Experiences reveal that only 20% of SMEs have access to reliable markets and customers (NBS, 2020; World Trade Organization (WTO), 2020). Sunil (2019), Asgary et al. (2020) and Rasib et al. (2021) connected the deficiencies in production, marketing and supply of goods in manufacturing SMEs as the results of unfavourable trade policies and frameworks, inadequate infrastructure, intensive competition and inconsistency in innovations.

Dynamic market forces, technology and intensive competition have exerted pressure on manufacturing SMEs to formulate means of enhancing innovation, competitive advantage and performance. SMEs that intend to expand, add value, achieve competitive advantages, attract and retain customers along their supply chain must consider the worth of SCIPs. SCIPs mean technological, non-technological improvements and adoption of new ways that require significant changes in the current supply chain to attain competitive advantages with a focus on satisfying the needs of the target customers (Moreira et al., 2018; Odunayo & Chidiebere, 2020). SCIPs integrate stakeholders to adjust current or adopt new ideas, processes and technologies for the purpose of delivering better services to the customers than competitors. The major dimensions that help in the adoption of SCIPs include green supply chain practices and customization of requirements to individual customers (Jermsittiparsert, 2019). Collaborative innovation emphasises streamlined interactions and integration through information sharing with suppliers, distributors and customers to enhance better communication, joint problem solving and avoiding the problem of bullwhip effects along the supply chain (Lee, 2021). Understandable, short distribution channels (the cross-docking) and the adoption of digital technologies such as EDI, e-supply chain and e-procurement systems form an integral part of SCIPs that enhance timely delivery and cost reduction (Edunayo et al., 2020; Liu & Lee, 2018). Moreover, outsourcing, offshoring and Just in Time (JIT) facilitate flexible sourcing and fast responses to dynamic customer requirements without adding more inventories (Murimi, 2021).

With efficient, responsive and strong SCIPs, manufacturing SMEs are capable of meeting the expectations of all supply chain actors whilst attracting and retaining new customers (Moreira et al., 2018; Thanh et al., 2020). Most SMEs are competing out of the market due to the ineffective adoption of SCIPs. For example, persistent late delivery of ordered items due to logistic inefficiencies ruins a firm's reputation and subsequently drives away existing and prospective customers (Moreira et al., 2018; Jermsittiparsert, 2019). SCIPs inherit a competitive advantage and firm's ability to respond effectively to dynamic and uncertain market forces, environment, and technology. The OECD countries have overwhelmed the complexities that face SMEs through a means of SCIPs including the adoption of digital solutions, customisation, collaborations and green procurement (Gurria, 2020; WTO, 2020). These have made manufacturing SMEs become big players in the global economy and supply chain. On average, 15% of micro-enterprises, 60% of small

enterprises and 80% of medium-sized enterprises in the OECD countries engage in international trade (Gurria, 2020). In Malaysia, 16% of manufacturing SMEs engage in exports due to good planning and a well-coordinated supply chain with foreign firms (WTO, 2020). In Tanzania's context, there is no clear knowledge that addresses the adoption SCIPs and their impact specifically in manufacturing SMEs. Previous studies have focused on examining social and economic challenges facing SMEs (Israel & Kazungu, 2018; Berne & Donaire, 2019; Kuswanto et al., 2019) and ways toward inclusive growth (Bouhelal & Adouka, 2022; Murimi et al., 2021). It is from this background this article aims at examining the role of SCIPs in enhancing customer retention in Tanzania's manufacturing SMEs, with insight from Mwanza city.

Literature reviews and theoretical perspectives

Theoretical underpinnings

This study was guided by the theory of Transaction Cost (TCT). TCT has emerged as one of the most operational and management theories that address a wide range of strategic issues in internal setting and design of several aspects within a firm's boundaries. The theory was proposed by Williamson in the 1970s in studying firms' boundaries and other rationales for undertaking hybrid decisions. TCT explains how firms internationalise, and structure their activities in a modern way to avoid waste, achieve market value and improve the odds of success (Williamson, 1994). In its setting, TCT postulates notable fundamental questions that form a base for its applications. More specifically, the theory postulates: (1) why do some firms internalise their economic transactions within their boundaries while others outsource? (2) why do firms do what they do? (3) why do firms not do what others do? (4) what, how and when activities would be organised and occur within a firm or the market? TCT reviews these questions as the most important issues in addressing and enhancing a firm's competitive advantages and performance. The theory regards well organised and streamlined firm's transactional activities as the express drivers of sustainable operation and performance of a business firm (Williamson, 1994; Wong & Ngai, 2022). Moreover, a disorganised firm's operational activities result in waste and market failure. More important, TCT classifies transactions among and within the firm as those that support coordination and operations between the supplier and customers (market transactions) and those that support and improve operations within the firm (innovations).

In this study, TCT was used to address the key fundamental issues in Supply Chain Management (SCM) and the marketing performance of manufacturing SMEs. Specifically, the study discussed the influence of SCIs on customers retentions in manufacturing SMEs under the framework of TCT. TCT forms an integral part of organising the modern hierarchy progress of moving products from supplier, manufacturer, wholesaler, and retailer to the ultimate consumer. The theory provides a base on which supply chain activities can be structured, organised, executed, and evaluated in a modern and innovative way to meet the express objectives of SCM (Wong & Ngai, 2022; Adebisi & Bakare, 2019). The decisions on how to undertake supply chain transactions (traditional or e-commerce), how and with whom to collaborate and integrate along the supply chain, how to evaluate suppliers and distribute goods, the make or buy decisions, application of JIT and how to make customers become an active part of firm's production process is one of the SCIPs that should be addressed from the fundamental aspects of TCT. Performance of the firm is a function of SCIPs, as SCIPs ensure optimal adaptability and flexibility of the firm to ever-changing market conditions of supply and demand (Wong & Ngai, 2022; Pal et al., 2022). This article highlights the importance of TCT in understanding how SCIPs enhance manufacturing SMEs in regard to what and how firms should operationalise their transactions within their boundaries to improve competitive advantages, attract and retain customers and avoid market failures.

Adoption of SCIPs in manufacturing SMEs

Manufacturing SMEs are subjected to internal and external pressures ranging from ever-changing economic, technological, political and socio-cultural environments (Nogami & Veloso, 2021; Edunayo et al., 2020). Moreover, manufacturing SMEs operate under limited financial resources and volatile market conditions. These pressures stand as barriers that impede effective operations of supply chain and marketing performance in manufacturing SMEs. These have compelled manufacturing SMEs to embrace innovations along their chain. It is through innovative attitudes and capacities of managers, SMEs turn competitive and sustainable (Odunayo & Chidiebere, 2020; Rasib et al., 2021). Wong and Ngai (2022) define innovation as the adoption and exploitation of a value-added novelty in economic activities such as the development of new methods, systems, processes, products and operations. Managers play a significant role in developing a roadmap and structures for the effective operation of manufacturing SMEs including the adoption of SCIPs. Pal et al. (2022) regard SCIPs as modified and uprising ways of undertaking supply chain processes and their related activities. Empirical evidence reveals e-supply chain system, JIT, green procurement practices, reverser logistics, collaborative SC, customisation, outsourcing and cross-docking as the commonly adopted SCIPs in manufacturing SMEs in India (Kulkarni, 2022; Pal et al., 2022) in Ghana (Issau, 2021) and in Vietnam (Thia & Thu, 2022).

Asgary et al. (2020) asserted that Turkey's manufacturing firms that have embraced SCIPs are often swift and account for survival, growth and development. However, manufacturing SMEs lag behind in the adoption of SCIPs and mostly rely on traditional operations and outdated technology which causes limited access to market opportunities. In Australia, a study by Ho et al. (2020) revealed that SMEs strive to achieve greater adoption of SCIPs, however, the initiatives end up in failures during the implementation phase. In-depth exploration indicates asymmetry of information among supply chain actors had an adverse impact on the implementation and adoption of SCIPs (Moreira et al., 2018; Sunil, 2019). In China, manufacturing SMEs have absorbed SCIPs to a great extent, as a result, most of the firms have managed to reduce supply chain risks, achieved competitive advantages, reduced transaction costs and have access to complementary resources and customers (Lee, 2021; Liu & Lee, 2018). Moreover, manufacturing SMEs have adopted e-supply and e-procurement systems and cross-docking in the distribution of products, resulting in fewer agents' involvement and making delivery time reasonably short. The adoption of e-supply chain systems and cross-docking has changed the way of doing business along the supply chain of manufacturing SMEs by cutting lead time and operational costs (Lee, 2021). Although SMEs face some complexities, manufacturing SMEs are strongly concerned with SCIPs. Evidence shows that manufacturing SMEs contribute more than four times to innovation than larger firms (Gherghina et al., 2020; Rasib et al., 2021). In Malaysia, a study by Rasib et al. (2021) and the WTO (2020) revealed a significant role of SMEs in supporting SCIPs and performance. SMEs have become active practitioners of SCIPs such as e-supply systems, collaborative supply chain, JIT, vendor-managed inventory (VMI), total quality management (TQM), reverse logistics and green supply chain.

Manufacturing SMEs are more agile and flexible, the attributes that make it easier for them to change and adapt quickly to the new ways of doing business by bringing a lot to creativity. Moreover, manufacturing SMEs have a small base of customers, thus it is easier to make them an active part of product design and development through customisation (Odunayo & Chidiebere, 2021; Nogami & Veloso, 2021). On the other hand, demand in SMEs is dominated by major and stronger customers, who are much easier to build long-term relationships with and create loyalty. These arguments are supported by Chin's et al. (2012) findings who found most SMEs in Pakistan have established long-term relationships of more than 10 years with customers and engaged actively in the firm's product research, design and development. Customisation brings customers closer, creates a sense of loyalty and improves the performance of SCM. Change in organisation's regime, cultural aspects, information asymmetry, financial constraints and reluctant to

change are the key barriers to effective adoption of SCIs among SMEs in the emerging economies in Brazil (Berne & Donaire, 2019) in China (Lee, 2021) and in Azerbaijan (Aliyev, 2020). Maintaining close relationships and collaborations with suppliers have been witnessed as one of the SCIPs that help in meeting customers' requirements and demands in time in Indonesian and Algerian manufacturing firms (Kuswanto et al., 2019; Bouhelal & Adouka, 2022). Dynamism and volatility of market conditions also grant fewer opportunities for manufacturing SMEs to become major contributors to SCIPs. This limits SMEs' abilities and willingness to participate and have access to the latest technologies necessarily needed to venture into innovations. SCIPs vary in type and are adopted in a particular firm depending on the nature of the firm's activities and environment. This study extracted 9 SCIPs from literature which are mostly adopted in manufacturing SMEs (Table 1).

Table 1. Definitions of SCIPs and customer retention

| SCIPs | Definitions | Sources |
|---|--|-----------------------------|
| E-procurement system | Purchase and sale of supplies, equipment, works, and services and exchange of information between the organisation through a web interface | Afolabi et al. (2019) |
| Product-Service customization | Company's dialogue with individual customers in the course of product or service designing and development by responding to customers' needs on a base of one-to-one real demand | Jermsittiparsert (2019) |
| Just in time (JIT) | Inventory management practice in which a company receive goods only as close as possible to when they are actually needed for operations. | Sunil (2019) |
| Collaborative and Integrated Supply Chain | Coordinating and association with internal and external partners to optimize SC flows and collective performance in the creation, distribution and support of end products and services | Ramjaun et al. (2022) |
| Reverse logistics | The practice of planning and implementing a cost-effective flow of raw materials from the point of consumption to the point of origin to capture value or proper disposal | Lee (2021) |
| Supply Chain configurations | Evaluation and selection of suppliers, parts, processes and transportation modes out of the available alternatives that vary in cost, lead-time and other measures at each node of the SC | Wong and Ngai, (2022) |
| Green supply chain | Supply Chain structures that guarantee the production, storage and distribution of products in a friendly manner with minimal adverse impact on the environment | Murimi et al. (2021) |
| Outsourcing and offshoring | Reducing SC costs by hiring a third party from low-labour cost or skilled organisations or countries to perform non-core activities and provide services for the company | Gherghina et al. (2020) |
| Cross-docking | Logistics practice where goods from a supplier or producers are unloaded and distributed directly to a customer or retailer without storage time | Murimi et al. (2021) |
| Customer retentions | The perceived strategic relationship between the firm and customer, manifesting customers' willingness to engage in business and repeatedly purchase from your firm rather than your competitors | Odunayo & Chidiebere (2020) |

Perceived benefits of SCIPs on customer retention in manufacturing SMEs

The main objective of SCM is to deliver better quality and quantities of products to customers at the least possible cost, from the right suppliers and at the right time (Afolabi et al., 2019; Lee, 2021). On the other hand, the strategic short-term goal of SCM is to minimise both internal and external manufacturing and procurement lead time. Achieving

the express objectives of SCM and its strategic short-term goal paves the way towards long-term goals of SCM such as profit maximization, improved customer service level, customer satisfaction and loyalty. In Kenya and Romania, studies by Murimi et al. (2021) and Gherghina et al. (2020) reveal that any quantified performance of SCM is rooted in SCIPs. The objectives of SCM tend to be achieved when SME managers surrender the traditional ways of supply chain operations and strive to work in a modern, innovative and creative approach. Adoption of SCIPs such as JIT, cross-docking and e-procurement systems lower the overall cost of offering services to the ultimate customers due to reduced inventories, cycle time and delivery time (Afolabi et al., 2019; Siwandeti et al., 2021). This will of course suffice customers' requirements at the least cost within a short lead time, thus creating loyalty. The core objectives of customers along the supply chain of goods and services are to procure quality products at the least cost and within the shortest lead time.

A supply chain that meets customers' desires and goals creates a sense of loyalty in terms of retention. These can be achieved through a means of SCIPs. SCIPs enhance improvement in SCM and satisfy the customer in the aspects of timely delivery to an average of up 60% (Chin, 2012; Odunayo & Chidiebere, 2020). E-supply chain for example cuts supply chain operational costs by 40% (Chin, 2012). A study by Gurria (2020) in EU countries reported massive adoption and remarkable benefits of SCIPs in SMEs such as customisation, e-commerce, collaborative supply chain and integration. In Merseyside and in the UK for example, about 90% of SMEs have adopted one or more SCIPs. As the result, SMEs have experienced significant development, growth and survival and are capable of retaining about 80% of the customers (WTO, 2020; Aliyev, 2020). In Kenya, Murimi et al. (2021) reported significant increases in customer service level and responsiveness, better communication and information sharing among supply chain actors and reduced supply chain risks being attributed to the effects of SCIPs. In Turkey, Asgary et al. (2021) connected the shorter production lead time, agility, flexibility, and accuracy in handling customers' demand in manufacturing SMEs as the results of effective adoption of SCIPs. Manufacturing SMEs with innovative and creative supply chain practices are more flexible in adapting to ever-changing technological, socio-economic internal and external environments (Jermisittiparsert, 2019; Sunil, 2019).

Materials and methods

This study was undertaken in four stages. In the first stage, a review of related literature was undertaken to identify the types of SCIPs adopted in manufacturing SMEs. In the second stage, the author identified 9 SCIPs that are mostly adopted in manufacturing SMEs (table 1). In the third stage, a set of self-administered questionnaires were formulated using the identified SCIPs adopted in manufacturing SMEs before being subjected to pilot testing to ensure reliability and validity. A test-retest approach was used to check the content validity of the research questionnaire among 8 SME owners who were not a part of the target population. Using the test-retest, questions were asked thrice in different approaches within an interval of three days to verify whether they elicit the same response. Adjustments were made where necessary to suit the study objectives. To test the reliability of the research questionnaires under the study, Cronbach's Alpha was used. Reliability and suitability of the data for further analysis were only regarded provided that the average value of Cronbach's Alpha was 0.7 and above as recommended by Nawi et al. (2020) and Morgan et al. (2020).

Questionnaires were distributed to 179 owners of manufacturing SMEs in Mwanza city who were randomly sampled from a total of 323 manufacturing SMEs. As of December 2021, Mwanza city economic profile database had a total of 323 active registered manufacturing SMEs. Yamane's formula for finite population (1973), $n = N / (1 + N (\epsilon)^2)$ was used to determine the sample size of 179 from the target population with a 0.05 tolerance error. Owing to non-response, only 168 questionnaires were successfully returned. The demographic characteristics of the sampled respondents from small manufacturing firms

are presented in table 2. The majority of sampled manufacturing SMEs (44.05%) had more than 50 employees followed by 29.17% with less than 5 employees. About 32.74% of SME owners had at least first-degree while 18.45% being the smallest number of respondents had secondary school education. 26.19% of the sampled manufacturing SMEs had operated for an average of 6 to 10 years followed by 23.21 % with 11 to 15 years of operations. Most of the manufacturing firms that participated in this study were small enterprises which accounted for 38.69% of all SMEs. The highest number of SMEs (27.98%) reported with an average of Tsh. 50-100 million sales value in a year while only 11.90% had more than Tsh. 201-250 million of sales revenue per year.

Table 2. Sample Characteristics

| Attributes | Category | Count [n = 168] | Percent [%] |
|------------------------------------|-----------------------|-----------------|-------------|
| Number of Employees | 1 – 4 | 49 | 29.17 |
| | 5 – 49 | 45 | 26.79 |
| | 50 – 99 | 74 | 44.05 |
| Education Attainment | Secondary Education | 31 | 18.45 |
| | Diploma | 46 | 27.38 |
| | First Degree | 55 | 32.74 |
| | Postgraduate | 36 | 21.43 |
| Years of operations | Less than 5 Years | 30 | 17.86 |
| | 6 – 10 Years | 44 | 26.19 |
| | 11 – 15 Years | 39 | 23.21 |
| | 16 – 20 Years | 29 | 17.26 |
| | 21 Years and Above | 26 | 15.48 |
| Types of SMEs | Micro Enterprises | 53 | 31.55 |
| | Small Enterprises | 65 | 38.69 |
| | Medium Enterprises | 50 | 29.76 |
| Revenue in a Year (Tsh. "000,000): | 0 > 50 | 26 | 15.48 |
| | 51 > 100 | 34 | 20.24 |
| | 101 > 150 | 47 | 27.98 |
| | 151 > 200 | 41 | 24.40 |
| | 201 > 250 | 20 | 11.90 |
| Manufacturing Sector | Food processing | 46 | 27.38 |
| | Textile manufacturing | 31 | 18.45 |
| | Beverages | 28 | 16.67 |
| | Rubber and plastics | 21 | 12.50 |
| | Chemicals | 14 | 8.33 |
| | Non-metallic products | 28 | 16.67 |
| Customers retention timeframe: | One week | 20 | 11.90 |
| | One month | 57 | 33.93 |
| | Over six months | 63 | 37.50 |
| | Over a year | 28 | 16.67 |

As per Tanzania's SMEs development policy (2003) in line with the revealed socio-economic characteristics of the number of employees and sales volume, the sampled manufacturing firms were specifically SMEs, thus suiting the focus of the study. The study area was purposively selected due to its nature of economic activities. Mwanza is a port city with an appropriately large number of processing SMEs compared to other regions. About 23% of formal SMEs in Mwanza are manufacturing SMEs (NBS, 2020; UN, 2020). In this study, manufacturing SMEs were sampled from different sectors of the economy. The majority of them were food processing (27.38%) followed by textiles (18.45%). The retention capacity of manufacturing SMEs ranges from an average of 1 month (33.93%) to six months (37.50%). This implies that manufacturing SMEs are capable of attracting and retaining customers for an average of 6 months.

A cross-sectional research design was used to ascertain the extent to which manufacturing SMEs adopt SCIPs and their significant impact on customer retention. The design fitted

well with this study as it helped the researcher to capture the data from a large population in a single period of time (Flick, 2020). The study collected quantitative and primary data from the respondents to test the relevance of the TCT in ascertaining the impact of SCIPs in enhancing customer retention in manufacturing SMEs using a questionnaire survey method. TCT advocates the need to improve performance, avoid waste and achieve market value under well-streamlined operational structures of activities of a business firm. TCT was used to ascertain the extent to which manufacturing SMEs adopt SCIPs and their ultimate impact on customer retention using a five-point Likert scale where 5 = Very great extent, 4 = Great Extent, 3 = Moderate extent, 2 = Less Extent and 1 = Not at all. The questionnaire survey was appropriate since it provided unambiguous results which were easy to interpret.

Quantitative data were coded into a common theme and analysed using descriptive statistics (mean and standard deviation). The significant impact of SCIPs on customer retention was established using Multiple Linear Regression (MLR). The model tied well with this study because the study involved the use of 9 independent dummy variables (SCIPs) and one dependent continuous variable (customers retentions) being coded as the number of customers retained by a particular manufacturing SME in a given timeframe. The underlying assumptions for the use of MLR were met. The average variance inflation factor (VIF) = 1.13, Levene's test for homogeneity $p = 0.155 > 0.05$ and normality test: Kolmogorov-Smirnova $p = 0.308$, Shapiro-Wilk (S-W) $p = 0.314$.

Results and discussion

Measures of adoption of SCIPs in manufacturing SMEs

Table 3 presents the results of the reliability test and the extent to which manufacturing SMEs adopt and embrace SCIPs. The average value of Cronbach's Alpha revealed from the 11 items tested was 0.819. Moreover, the analysis revealed a minimum Cronbach's Alpha value of 0.702 and above among the 11 items tested. This implied that the research instruments were reliable, and each item contributed significantly to the internal consistency of the data (Morgan et al., 2020; Nawi et al., 2020). The mean and standard deviations present the extent of the adoption of SCIPs in manufacturing SMEs. The use of e-supply chain systems was rated moderate in terms of its adoption with a mean score of 3.065. With a Std. Deviation of 0.874, implies consensus in responses among respondents on the extent of adoption of e-supply chain in manufacturing SMEs. This is connected to inadequate ICT infrastructure, experts, high installation costs and legal complexities which hinder the effective adoption of e-supply chain systems (Siwandeti et al., 2021; Moreira et al., 2018). The ability to make customers active participants in product and service development was also rated moderate (mean = 3.125; Std. Deviation = 0.623). This indicates consistency in responses that SMEs practice customisation, however, to a moderate extent. These findings concur with Kulkarni's et al. (2021) findings in India and Bouhelal and Adouka's (2022) in Algeria that SMEs give less effort to customisation and e-supply chain systems due to inadequate knowledge on the perceived benefits of service and product customisation.

The study revealed a mean score of 2.918 and Std. Deviation of 0.416 regarding the adoption of Just-In-Time (JIT) in manufacturing SMEs. This indicates convergence in responses that manufacturing SMEs practice JIT to a moderate extent. In some cases, SMEs encounter unforeseen demand, especially for slow and non-moving goods, thus prefer JIT as the best alternative to monitor demand related to such inventories (Lee, 2021; Liu & Lee, 2018). The study found that manufacturing SMEs embrace collaboration and integrate with other firms along the supply chain (horizontal integration) to a less extent (mean = 2.445; Std. Deviation = 0.901). This is an indication that SMEs do not prefer vertical integration and collaboration in the supply chain of goods. Studies by Ramjaun et al. (2022) in the UK brewery networks and Adebisi and Bakare (2019) on Nigerian SMEs' survival strategies regarded the fear of acquisition, trade secrets and the inability to

connect and share information with other firms as one of the challenges that hinder SMEs towards effective adoption of collaborative and integrative practices. Reverse logistics as a part of SCPIs had a mean score of 2.801 and Std. Deviation of 0.820, revealing a consensus in responses among the respondents. This implies that SMEs monitor the movement of goods and materials from the point of consumption to the origin for one or more express objectives to a moderate extent. In line with these findings, Liu and Lee (2018), Nogami and Veloso (2021) and Murimi et al. (2021) sported re-works and repairs, recycling and returns from customers as the key reverse logistics practices mostly undertaken in Chinese, Brazilia's and Kenya's firms.

The ability of SMEs to integrate with suppliers and customers (vertical integration) revealed a moderate mean score of 2.955 with a considerable variation in responses (Std. Deviation of 0.647). The finding concurs with Ho's et al. (2020) findings in Australia that SMEs are less capable of merging and conquering resources and expertise needed for sustainable growth and survival in the upstream and downstream of the supply chain due to their small size and limited resources. Nevertheless, the study revealed that manufacturing SMEs evaluate suppliers, processes, transports and parts out of the available alternatives for the substantial operation of firms to a great extent (mean = 2.915; Std. Deviation = 0.825). This is in line with the requirements of procurement regulations that regard vetting as the tool for selecting and hiring competent and best service providers at the least cost for the sustainable performance of a firm (Moreira et al., 2018; Odunayo & Chidiebere, 2020). It was also found that manufacturing SMEs had sustainable practices that comply with environmental protection laws, policies and regulations (mean = 3.378) with less variability in responses among the respondents (Std. Deviation = 0.706). This implies that manufacturing SMEs comply with environmental laws and regulations to a moderate extent. In line with this finding, Issau (2021) and Nogami and Veloso (2021) revealed sustainable environmental practices among manufacturing SMEs in Ghana and Brazil, the practice which is connected to the express goals to avoid fines and penalties attached to environmental pollution.

Table 3. Extent of adoption of SCIPs in Manufacturing SMEs

| SCIPs | Reliability Analysis | Adoption of SCIPs | |
|---|----------------------|-------------------|----------------|
| | Cronbach's Alpha | Mean | Std. Deviation |
| A firm generally adaption of e-supply chain in business operations | 0.805 | 3.065 | 0.874 |
| Customers are active participants in product and services development | 0.741 | 3.125 | 0.623 |
| A firm exclusively prefers and practices Just-In-Time (JIT) | 0.755 | 2.918 | 0.416 |
| A firm works jointly with other firms to execute SC operations | 0.808 | 2.445 | 0.901 |
| A firm constantly practices reverse logistics for products and materials | 0.792 | 2.801 | 0.820 |
| A firm integrates and collaborates with customers and suppliers in SC | 0.786 | 2.955 | 0.647 |
| Evaluations of suppliers, processes, transports and parts out of alternatives | 0.813 | 2.915 | 0.825 |
| A firm has sustainable practices toward environmental protections | 0.707 | 3.378 | 0.706 |
| A firm has improved SC efficiency through outsourcing and offshoring | 0.815 | 3.725 | 0.695 |
| Emphasis on removing storage link in SC | 0.795 | 3.410 | 0.815 |
| A firm has substantial increases in the number of customers' retention | 0.702 | 3.009 | 0.936 |

The study rated the ability of manufacturing SMEs in outsourcing and offshoring goods and services to a great extent (mean = 3.725; Std. Deviation = 0.695). Manufacturing SMEs prefer outsourcing as one of the important strategies toward cost reduction, improved efficiency and effectiveness. Outsourcing and offshoring guarantee quality goods and services and maintain continuity of supplies to meet customers' demands (Murimi et al., 2021; Pal et al., 2022; Adebisi & Bakare, 2019). It was found and agreed among the respondents that manufacturing SMEs prefer direct shipping of goods to customers after production (mean = 3.410; Std. Deviation = 0.815). This means that manufacturing SMEs emphasise removing the storage link in supplying goods to a moderate extent, the practice which helps a firm to minimise storage costs while meeting customers' demands on time (Moreira et al., 2018; Murimi et al., 2021). Regarding customer loyalty in light of the adoption of SCIPs, the study revealed substantial increases in the number of customer retention (mean = 3.109; Std. Deviation = 0.936). These findings are in line with the assumptions of TCT, Jermisittiparsert's (2019), Ho's et al. (2020) and Thi and Thu's (2022) findings which postulate and advocate the importance of innovative practices and structures as one of the imperative pillars towards sustainable performance, growth and survival of a business firm in the ever-changing legal, political and technological environment.

SCIPs and customer retention in manufacturing SMEs

Table 4 presents the results of Multiple Linear Regression (MLR) regarding the impact of SCIPs in enhancing customer retention. Prior to data analysis, analysis of variance (ANOVA) was conducted to check the fitness of MLR and its prediction ability. Independent variables are said to be a significant predictor of the outcome variable provided that the p-value of F-statistics is less than the absolute critical t-value ($p < \alpha$) (Flick, 2020). The ANOVA revealed p-value of F-statistics = 0.002, that is $p < 0.05$. On the other hand, the module summary revealed a strong and positive relationship between the explanatory variables and the outcome variable with $R = 0.697$. The adjusted R^2 was 0.470 indicating that the adopted SCIPs explain variations in attracting and retaining customers by 47.0%. The results of these tests were sufficient proof to argue that the model tied well with the data and was significant and adequate in predicting and explaining variations in customer retention in manufacturing SMEs under the adopted SCIPs.

Table 4. Multiple Regression Results: Unstandardized Coefficients and t-values

| Construct Variables | Customer Retention | | | VIF |
|-----------------------------------|--------------------|-----------|-----------|------|
| | Beta | t - Value | p - value | |
| Constant | 2.648 | 1.454 | 0.000 | |
| Adoption of e-supply chain system | 0.545 | 0.424 | 0.003 | 1.13 |
| Product-Service customization | 0.605 | 0.552 | 0.001 | 1.13 |
| Just in time (JIT) | 0.767 | 1.295 | 0.001 | 1.11 |
| Collaborative and Integration SC | 0.504 | 0.525 | 0.005 | 1.13 |
| Reverse logistics | 0.715 | 0.378 | 0.062 | 1.12 |
| SC configurations | 0.496 | 2.356 | 0.004 | 1.14 |
| Green supply chain practice | 0.520 | 0.299 | 0.040 | 1.13 |
| Outsourcing and offshoring | 0.529 | 2.176 | 0.015 | 1.12 |
| Cross-docking | 0.286 | 0.452 | 0.003 | 1.13 |

Module fit indices:

$R = 0.697$, $R^2 = 0.486$, Adjusted $R^2 = 0.470$, $F = 11.034$, Prob. > $F = 0.0021$ and Average VIF=1.13

The outputs of MLR in table 4 indicate that SCIPs adopted under this study enhance manufacturing SMEs' ability in attracting and retaining a significant number of customers, except for reverse logistics. Holding all independent variables to zero, the ability of SMEs to attract and retain customers would be significantly enhanced by 2.648 ($\beta = 2.648$, $t = 1.454$, $p < 0.05$). Despite the depicted performance, SCIPs play a positive and significant role in attracting and retaining customers in manufacturing SMEs. The findings reveal that adoption of e-supply chain systems attracts and retain new customers by 0.545 ($\beta = 0.545$,

$t = 1.454$, $p = 0.003$). Manufacturing SMEs that adopt e-supply chain practices such as Electronic Data Interchange (EDI), e-procurement and e-business stand a high chance of attracting and retaining new customers. In their studies, Siwandeti et al. (2021) in Tanzania and Afolabi et al. (2019) in Nigeria on the use of and the benefits of e-procurement systems, asserted that in the modern era buyer prefers e-businesses transaction in comparison to the traditional supply chain. Respondents agreed that customisation positively enhances customer retention ($\beta = 605$, $t = 0.552$, $p = 0.001$). Customisation is an imperative tool for enhancing marketing performance of SMEs in terms of customer attraction and retention. In line with this finding, studies by Jafari et al. (2022) and Kuswanto et al., (2019) on customers responsiveness and loyalty in Swedish and Indonesian firms found that customisation creates a sense of flexibility in light of ever-changing market demand and offers cost-effective in product and service development due to early customers' involvement.

Collaborative SCI was positive and statistically significant in attracting and retaining customers ($\beta = 0.504$, $t = 0.525$, $p = 0.005$). The finding concurs with Thanh's et al. (2020) and Thi and Thu's (2022) findings who found collaborative innovation as an essential tool for marketing performance in Vietnam's firms. Collaborative SCI enhances networking, collective decision, support services and sharing of market and demand information towards optimized flows along the supply chain. Adoption of JIT would result into 0.767 increases in customers retentions ($\beta = 0.767$, $t = 1.295$, $p = 0.001$) in manufacturing SMEs. This implies a positive and significant role of JIT in attracting and retaining new customers. Like Sunil (2019) and Moreira's et al. (2018) findings, this study posits that manufacturing SMEs that are flexible in ensuring timely availability of supplies for their operations to meet customer demand are more likely to attract and retain potential customers. The study showed that supply chain configurations significantly and positively enhance customer retention ($\beta = 0.496$, $t = 2.356$, $p = 0.004$). Streamlined procedures for evaluating and selecting suppliers of inputs, parts and modes of transportation have a positive and significant impact on customer retention in manufacturing SMEs. In Algeria and India, studies by Bouhelal and Adouka (2022) and Kulkarni et al. (2021) revealed that innovative and well-configured supply chain practices reduce manufacturing lead time and cost at each node of supply chain while keeping customers satisfied with the firm's services.

The findings revealed that green supply chain practices result into positive and significant impact on customer retention ($\beta = 0.520$, $t = 0.299$, $p = 0.040$). The result concurs with Sunil's (2019) findings in the USA and Kuswanto's et al. (2019) findings in Indonesia on the effects of a firm's innovations in a marketplace. The findings assert that firms that guarantee the best supply chain management practices with minimal environmental impact are more likely to achieve sustainable marketing performance in terms of customer attraction, retention and increased sales. Outsourcing and offshoring was positive and statistically significant on customers' retention ($\beta = 0.529$, $t = 2.176$, $p = 0.015$). Outsourcing and offshoring enable firms to fulfil their operational objectives of procuring and delivering quality goods, works and services from skilled personnel at the least cost, the practice that attracts and retains key customers (Ho et al., 2020; Murimi et al., 2021; Moreira et al., 2018). Nevertheless, cross-docking had a positive and significant impact on customers' retention. An attempt to deliver goods directly to customers from the manufacturer revealed 0.286 increases in customer retention. Cross-docking eliminates delays in product delivery, thus enhancing customer goals of ensuring timely delivery of procured requirements. In Brazil and Algeria, studies by Nogami and Veloso (2021) and Bouhelal and Adouka (2022) revealed that satisfying customers with timely delivery create a sense of loyalty to the manufacturing firms and suppliers.

Conclusion and recommendations

This study examined the role of SCIPs in enhancing customer retention in manufacturing SMEs. A conclusion reached hereunder is based on the results revealed in this study. The

results of the study are that manufacturing SMEs adopt and embrace SCIPs to a moderate extent. Despite the limited adoption of SCIPs, the study revealed a positive and significant impact of SCIPs in enhancing customer retention in manufacturing SMEs. The study revealed e-supply chain system, product and service customisation, JIT, collaborative supply chain and integration, supply chain configuration, green supply chain, cross-docking and outsourcing practices as the most SCIPs adopted in manufacturing SMEs with significant influence in attracting and retaining customers. Therefore, the role of SCIPs should not be underrated in manufacturing SMEs since they contribute significantly to customer retention, the aspect which is essential for sustainable growth, development, and survival of a business firm.

Considering the study's results, the author recommends to manufacturing SMEs ensure that SCIPs are adopted by all actors at each node of the supply chain for goods and services, both upstream and downstream. To policymakers, the study recommends the need to establish a platform that will link manufacturing SMEs with financial institutions where they can access the funds needed for the development of innovative ideas. Nevertheless, the government should establish a centralised platform where all firms from different sectors might come together and share the benefits, challenges, and way forward towards effective adoption of SCIPs. This will relieve the complexities that constrain manufacturing SMEs from the adoption of SCIPs for inclusive growth and development.

Theoretical implications

The findings under this study ascertain how TCT can enhance innovation and customer retention along the supply chain of manufacturing SMEs. TCT is applicable in operational and strategic activities with an emphasis on innovation perspectives. In the supply chain, TCT focuses on optimising supply chain transactional activities towards realisation cost reduction, customer satisfaction and profit maximization through streamlined supply chain design and network. Properly designed supply chain networks and transactional activities within a firm's boundaries form an integral part of SCIPs. TCT prescribe innovations in business transactions as one of the key drivers toward improved firm performance and sustainability. The findings under this study posit and link the problems and deficiencies in manufacturing SMEs as the results of limited innovative behaviours among supply chain actors. Like other chains, the supply chain of manufacturing SMEs is subjected to dynamic market forces, environment, and technology. To match with these forces, SMEs must be agile, flexible, and innovative. Therefore, manufacturing SMEs can minimise deficiencies, improve their transactional activities and enhance customer services and retention through proper adoption of SCIPs.

Contribution, limitations and future research

This study is of novel contribution to the literature that addresses and documents the forms of SCIPs and their impact on customer retention in manufacturing SMEs. While previous studies document the determinants, innovative challenges, and strategies of SMEs in a marketplace (Bouhelal & Adouka, 2022; Berne & Donaire, 2019; Kuswanto et al., 2019), this study ascertains the extent to which manufacturing SMEs adopt different forms of SCIPs to enhance customer retention. This study contributes to the inadequate body of literature that informs researchers and scholars on different forms of SCIPs and their impact on attracting and retaining customers in manufacturing SMEs. Like other studies, this study had some limitations as addressed hereunder. First, the study was confined to manufacturing SMEs in Mwanza city, Tanzania. Large firms and SMEs from other sectors of the economy were not considered. Therefore, the results of this study should not be generalised to all firms. Moreover, the study did not account for other factors than SCIPs that affect customer retention in manufacturing SMEs. The study revealed that SCIPs account for only 47.0% of customer retention, leaving 53.0% for unaccounted constructs. This limits the understanding of other constructs that affect customer retention in a wider context. The author recommends future studies to be carried out across all firms in Tanzania rather than confining them to manufacturing

SMEs. Future studies should also consider other variables that affect customer retention in manufacturing SMEs since the SCIPs adopted in this study did not account to 100% in enhancing customer retention. These will enlighten understanding among scholars, policymakers and SME owners on the various constructs that affect customer retention in a wider context of business operations.

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