

Logistics Outsourcing Practices in Africa: A Systematic Literature Review

V. O. Achola¹

Received: 16 February 2023 / Accepted: 2 July 2024 / Published online: 31 July 2024
© The Author(s) 2023 This article is published with Open Access at www.bvl.de/lore

ABSTRACT

This study is a systematic review of the literature on logistics outsourcing practices in Africa. It is motivated by the need to conceptualize the future capabilities of logistics service providers (LSPs) currently operating in the region using the existing data from the literature. Data was obtained from eighty-two (82) peer-reviewed journal articles published between the year 2000 to 2021 and the thematic approach used in the analysis. Themes were derived from specific research questions that focused on the services of LSPs; the impact of changing customers' needs on the growth of LSPs; and technology adoption trends of LSPs. The findings revealed that most LSPs predominantly offer basic logistics services due to their limited capabilities. It further emerged that outsourcing decisions are driven by pressure from customers whose needs elicit responses from both outsourcing firms and LSPs. By building broader service portfolios, LSPs strive to offer extensive logistical support to their clients in response to the changing market demands. Technological innovation is considered as an essential part of this growth even though its application is curtailed by the inadequate hard infrastructure. Theoretically, the paper anchors on the joint application of evolutionary economics theory and resource-based view (RBV) to describe the future growth of African-based LSPs from lead logistics providers (LLP) to supply chain orchestrators. The ensuing actionable suggestions to exploit the full potential growth of LSPs form the basis of the paper's managerial contributions.

KEYWORDS: Logistics Outsourcing · Africa · Logistics Service Providers · Resource-Based View · Evolutionary Economics · Systematic literature review

1. INTRODUCTION

Logistics outsourcing strategy dates back to the 1980s when external companies were contracted by organizations to manage their warehousing and transportation functions [1]. This strategy was driven by the need to achieve supply chain efficiency whereby outsourcing enabled firms to utilize the resources and expertise of service providers to streamline their logistics operations and make them achieve high-quality provision of services to customers at reduced prices, faster, and reliably [2]. Logistics service providers (LSPs) would then sprout to execute logistics activities on behalf of firms, otherwise referred in this paper as outsourcing firms. The supply chains and logistics sector have since depended largely on LSPs to create and deliver value to customers [3]. However, the constant flux characterizing the logistics markets globally has forced both the LSPs and outsourcing firms to be innovative and develop capabilities for improved logistical service offerings. While LSPs in developed economies are thriving and expanding their logistics service portfolios, those operating in and are from Africa struggle due to poor working environment, hence performing sub-optimally. The logistics market in the West is advanced courtesy of robust hard and soft infrastructure, thriving economies, advanced quaternary sector, and most importantly, high investment in logistics focused research [4]. The latter is evident in the plethora of logistics research focusing on the Global North that timely identify bottlenecks in logistics operations and recommend solutions. In Africa, to the contrary, investment in logistics research is nearly non-existent save for a few individual efforts motivated purely by scholarly pursuits. Today for instance, logistics research in the West is concerned with smart logistics and shared logistics to leverage cost and increase efficiency [5, 6], while Africa is still stuck in the developmental stages of brick-and-mortar logistics.

✉ Vincent Odhiambo Achola¹

¹ Department of Logistics, Purchasing & Supplies Management, University of Stuttgart, Germany

Granted, Africa is plagued by a myriad of hardships, particularly the sub-Saharan region, that range from political instabilities to economic challenges, rampant corruption, and bad governance, a combination of which encumber the growth and development of the logistics industry [7, 8]. Consequently, logistics in sub-Saharan Africa is characterized by poor logistics infrastructure such as transport infrastructure (roads, rail, terminals, airports, seaports, intermodal facilities, and border facilities), power supply, and communications infrastructure [9]. The poor state of the logistics infrastructure cuts the economic growth of the sub-Saharan region by 2% while reducing business productivity by a whopping 40% [10]. It is not surprising that the lack of continental connectivity due to the poor state of transport infrastructure limits intra-African trade. Moreover, the deficiency of research in African logistics impedes knowledge sharing between the industry and scholarly community, thus leaving a trail of ignorance and disinterest in the pertinent continental logistical issues that require closer attention by the global community.

As a literature review, therefore, this paper focuses on the operations of LSPs in Africa in an attempt to reduce the research void and bring to the fore the landscape of the continent's logistics industry. This is undertaken from the perspective of logistics outsourcing practices, which is a critical pillar of the industry. The current study is partly in response to the concerns raised by global researchers such as Größler, *et al.* [11]; Aguezzoul [12]; Behrends [13]; and Akbari [14] on the need to synthesize research on logistics outsourcing in both developed and developing economies to have a holistic understanding of the subject. Extant research into the state of logistics in Africa is both conceptual, prescriptive [15, 16, 17, 7] and empirical [18, 19, 20, 21, 22]. These studies are however, fragmented and widely dispersed. Whilst they contribute to logistics research in Africa, there is still insufficient consolidated knowledge on the current status of LSP operations in the continent that can inform the future growth of logistics outsourcing. Specifically, no research known to the author assesses the present state of logistics outsourcing that could be used as a basis of projecting the future growth capabilities of LSPs in Africa. Therefore, this study addresses the research gap and conceptualizes the future growth prospects of LSPs in Africa through a systematic review of literature. Accordingly, the following research questions structured the discussion aimed at addressing the aforementioned.

- RQ1: What is the scope of LSPs operations in Africa and how does this shape their future growth portfolio?
- RQ2: How do the changing customer requirements affect the growth of LSPs in Africa?

- RQ3: How does technological innovation adopted by LSPs and what is their impact on the growth of LSPs?

The research questions provided the basis for conducting a comprehensive review with each question forming a theme. The paper thus provides updated bibliometric analysis of the changing patterns of logistics outsourcing in Africa. It synthesizes research on the operational dynamics of LSPs in Africa with a view of crystallizing future growth potential amidst the socio-economic and political challenges. The rest of the paper is divided into four sections as follows: Section 2 contains definitions and theoretical underpinnings of the concepts and variables used; Section 3 outlines the methodology adopted; Section 4 presents the results and the discussion; and Section 5 concludes the paper and proposes areas of future research.

2. DEFINITIONS AND THEORETICAL UNDERPINNINGS

2.1 Logistics Outsourcing

Logistics outsourcing has varied definitions such as the use of a third-party logistics provider by a firm to perform part or all of its logistics activities previously done in-house [23]; the strategic utilization of external logistics companies to provide logistics services previously performed in-house [24]; and the provision of a one or more logistics activities by a vendor on contractual terms [25]. The literature associates outsourcing with cost reduction, high service quality levels, time and resources allocation to core competencies, strategic flexibility, and leveraging technology [26, 27, 28, 29]. In this study, the definition by Maltz and Ellram [23] is adopted, and with it the application of the resource-based view (RBV) to explain how logistics outsourcing provides a strategic fit for outsourcing firms [21, 30].

2.2 Logistics Service Providers (LSPs)

The LSPs have been widely used in reference to external providers that manage, control, and implement logistics operations on behalf of a firm [31]. The concept is synonymous with third-party logistics providers (3PLs), transport firms, contract logistics, etc. [32]. However, it is imperative to note that LSPs is a distinct industry itself, separate from that of its clients and therefore not an intermediary [33]. LSPs are orchestrators that manage and coordinate the logistics activities of firms to improve their supply chain management performance [34]. As orchestrators, they operate as asset-based and non-asset-based [25] with the former leasing its physical assets when providing logistics activities. The latter, on the other hand, is management-based that uses human

resources and systems to provide logistics management services. Therefore, it is this conceptualization of LSPs that the present study adopts.

2.3 Africa as a Logistics Hub

Interest in logistics operations in Africa stems from the fact that the African continent plays a crucial role as a logistics hub for global supply chains of imports and exports [35]. Thus, it is imperative to identify patterns of logistics development in the region and create insights from logistics research that can inform policymaking to enhance effectiveness. Moreover, from the economic front, Africa is one of the most dynamic regions in the world even though it has been ignored by the formal economy of the developed world. In fact, the African continent has been identified as having the potential to produce six of the world's ten fastest-growing economies in the sub-Saharan region [36] owing to its young population that provide labour and the growth of its middle class with purchasing power. This has engineered the steady growth of Africa's economy before the Covid-19 pandemic and is projected to resume this trend after a short hiatus with 2024 at 3.7 percent and 2025 at 4.1 percent growth rate [37]. Despite the hardship that African countries have endured, they have been resilient and have kept making modest progress in their economic activities. This is facilitated by economic reforms that have brought low-cost capital, direct and indirect foreign investments, and developed entrepreneurial start-ups to transform the economic landscape of the continent [35]. With this unique mix of fortunes, insights on the logistics operations of the continent is worth exploring, especially considering that the area is under-researched. As such, modeling a futuristic logistics outsourcing relationships is only realizable upon taking stock of the current state of the continent's logistics industry. This study therefore, contextualizes its inquiry within Africa by analyzing the logistics operations of LSPs and how the changing market dynamics influence their future growth.

2.4 Evolutionary Economics and Resource-based View

The study adopts a theory extension approach using the Darwinian evolutionary concept to explain the dynamics of logistics outsourcing in Africa. Thus, evolutionary economics as originally developed by Nelson and Winter [38], is applied to synthesize the logistics outsourcing milestones in the past two decades. The theory is based on the premise that economic activities interact with constraining forces of nature and depend on human clairvoyance for sustainability [39]. Just like the Darwinian natural selection theory, firms are faced with potentially annihilating exogenous shocks that must be addressed to guarantee survival, which is contingent on endogenously developed

capabilities. Adaptation for survival is developed over time to acquire the ability to withstand the vagaries of economic fluidity. For the past two decades, the logistics industry in Africa has modestly developed courtesy of the continent's investment in logistics infrastructure [40]; increased industrialization activities [41]; and the implementation of the African Continental Free Trade Area (AfCFTA) agreement to allow mobility and connectivity of the fifty-five countries to trade freely [9]. Therefore, evolutionary economics enables the synthesis of these developmental stages of logistics outsourcing practices in the form of feedback loops. Not only does it enable the evaluation of the current outsourcing practices, but it also provides a basis for analyzing the future logistics outsourcing requirements of the continent.

The development of LSPs can only be feasible with the availability of resources. As logistics requirements get complex due to increased economic activities in Africa, so does the portfolio of LSPs. Resources requirement is fundamental to the expansion of the LSPs' capabilities to include specialized service offerings, technological innovation, socio-economic and ecological sustainability, and the right management skills [42]. Therefore, the RBV props up evolutionary economics by enabling outsourcing firms (and LSPs) to access a wide range of resources to build unique capabilities and deal with disruptions [43, 44]. Against this background, the paper conceptualizes African-based LSPs as organically evolving from offering basic logistics services to becoming lead logistics providers (LLP) with an expanded portfolio as a result of the growing logistics industry in Africa.

3. METHODOLOGY

A literature review is a systematic and replicable method used by researchers to investigate, evaluate, and understand a discipline through a related body of research that has been done [45, 46]. This paper used a systematic approach to the literature review to isolate and analyze data to get clearer conclusions by identifying, and filling the existing research gap as observed by Denyer and Tranfield [47]. A five-step process delineated in the literature on systematic reviews [48] was followed as described in the proceeding sections.

The first step outlined the range of the investigation which spanned 21 years – from the year 2000 to 2021. The second step specified the source of journal articles reviewed, where this paper utilized nine renowned databases of academic journals, namely: Emerald, ScienceDirect, JSTOR, EBSCO, Taylor and Francis, Africa Journals Online, Wiley, and Google Scholar. Additionally, snowballing was applied to

further identify relevant journal articles from the citations and bibliographies of related literature. Step three provided guidance on the search string, which involved title search using keywords, phrases, and operators such as 'logistics in Africa' OR 'logistics in sub-Saharan Africa'; 'logistics service providers in Africa'; 'third-party logistics in Africa' OR 'contract logistics in Africa'; 'logistics in developing economies'; and 'technology and logistics in Africa'. Precedence had already been set by most authors of systematic literature reviews [49] opting for similar keywords, phrases, and operators in search of appropriate articles. Step four guided on the analysis criteria to be applied to the selected articles where Microsoft Excel and MAXQDA were useful tools in this regard. Finally, step five showed the outcome of the process in which three important outcomes were envisaged: major findings, focus of the current research, and further research recommendations in logistics outsourcing.

The exclusion criteria involved non-peer-reviewed articles on logistics outsourcing such as book reviews, reports, and conference papers. The rationale for this exclusion criteria was to safeguard the quality of articles reviewed since peer reviews are guided by certain parameters below which an article should not fall. In doing so, quality is guaranteed the world over among academics and researchers thereby giving the highest quality status to the article. Secondly, articles addressing logistics outsourcing in developed countries and other non-African countries without reference to or comparison with African countries were not eligible for selection and, hence excluded from the review. Lastly,

articles published in a language other than English were also excluded.

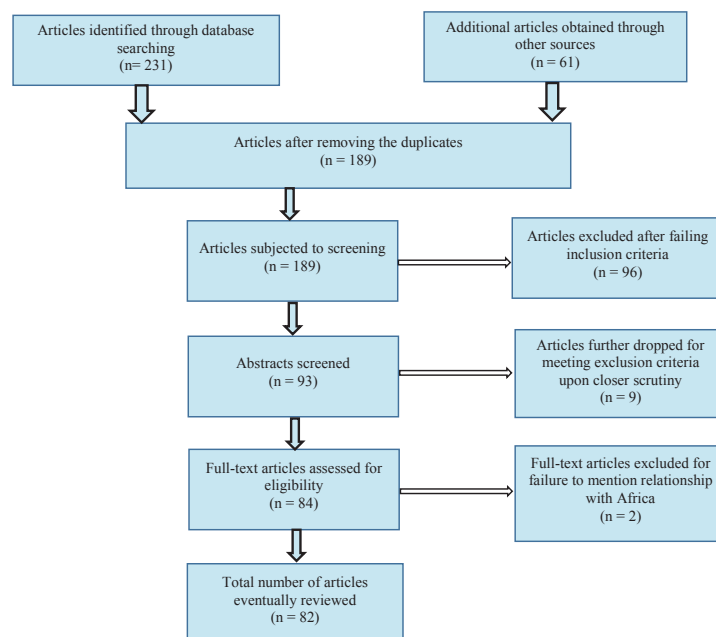
3.1 Distribution by Journal Publications

The literature search yielded two hundred and ninety-two (292) journal articles. However, after filtering, a total of eighty-two (82) journal articles were reviewed. These articles were drawn from various journal publications as indicated in Table 1 (cf. Appendix I).

It emerged that logistics outsourcing in Africa is under-researched and this probably explains why few studies were available for the review. Moreover, the few relevant articles were scattered across many journals which indicates a lack of a journal dedicated to consolidating and publishing studies on logistics activities in Africa. Out of the articles reviewed, the majority focused on the logistics outsourcing industry in South Africa, while the rest of the continent received little attention from researchers. Logistics activities of countries in North Africa also attract researchers and since most of the journal articles are in French, they were excluded from this paper.

3.2 Distribution by Years of Publication

The review covered articles published between the years 2000 – 2021. However, those obtained and considered relevant were published from the year 2003 to 2021, with the highest number of articles published in 2017. The dearth of literature in the early 2000s, specifically focusing on sub-Saharan Africa, could be attributed to the lack of interest by researchers in



Source: Liberati *et al.* [41].

Figure 1: Journal articles selection procedure

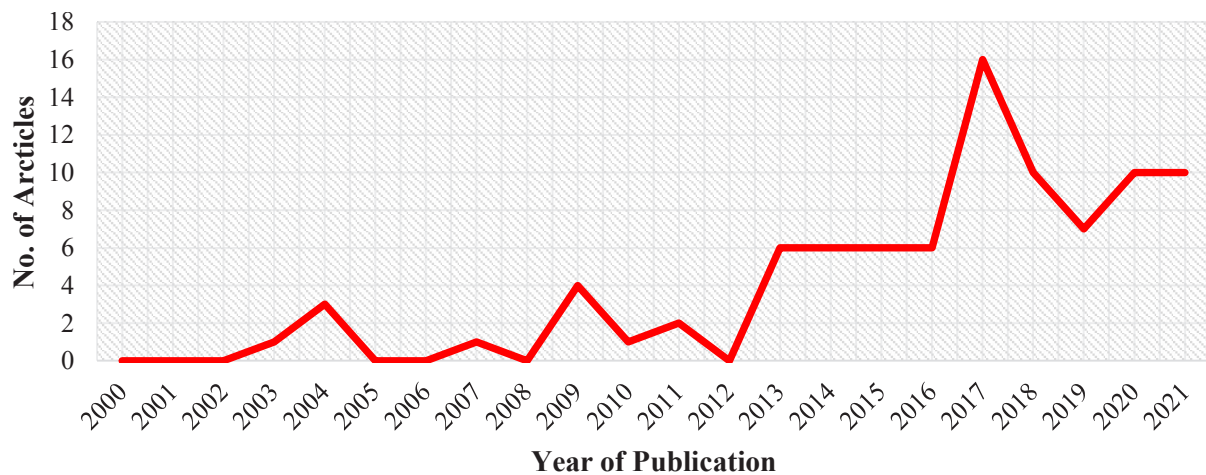


Figure 2: Distribution by Year of Publication

studying the nondescript logistics industry before the new millennium. El Baz *et al.* [49] attested to this by observing that logistics outsourcing was scarcely studied in Africa compared to the Western world before the new millennium. Figure 2 illustrates the publication pattern during the mentioned period.

3.3 Distribution by Industry

Several industries were represented in the review as illustrated in Figure 3. The logistics and transportation industry was the most studied followed by the manufacturing industry. However, mining and Fortune

500 Companies in Africa had the lowest percentage of literature reviewed.

3.4 Distribution by Country

A total of eighteen (18) countries were represented in the studies reviewed. Owing to the strict inclusion criteria, some studies could not be selected for the review and probably this explains why out of the fifty-four (54) countries of the African continent, only eighteen (18) countries were covered in the study. South Africa had the highest number of articles attributed to its high-ranking universities globally, besides a flourishing

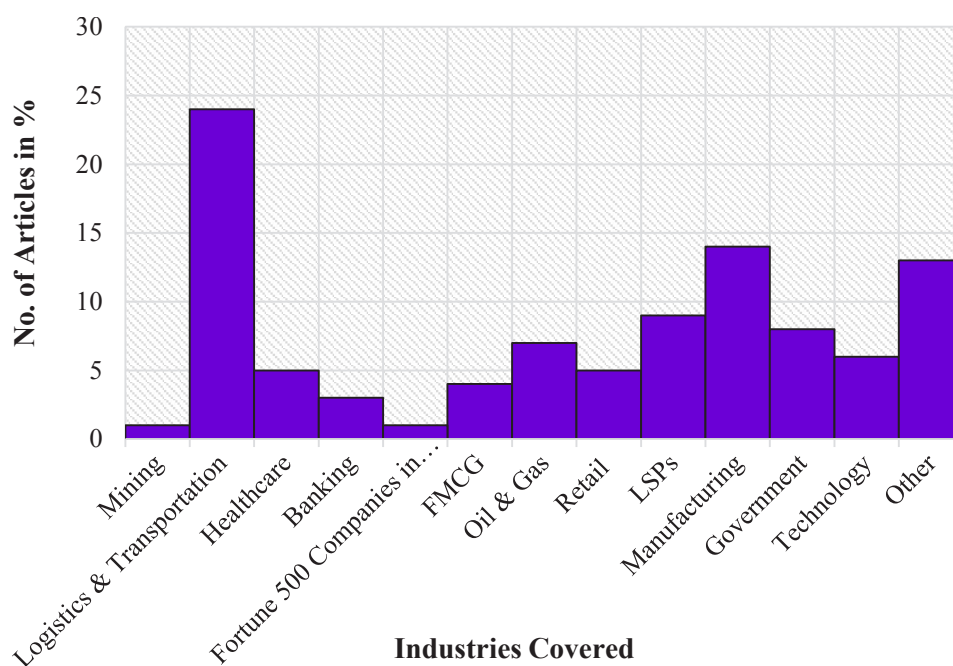


Figure 3: Distribution by Industry

economy that attracts researchers to have a foothold in the country and produce reports out of their research work. Kenya and Ghana had the second-highest number of papers which could be explained by their more or less similar economic and scholarly development. However, it is important to note that most countries in North Africa recorded few articles given that they are Francophone, and journal articles published in English were few. Figure 4 illustrates the number of journal articles per country that were reviewed in this study.

traditional logistics activities and therefore common among most LSPs with the only difference being the offered service quality levels. However, it emerged that most firms outsource transportation as an operational-level activity and therefore hardly leverage its strategic advantage [49, 53]. A plausible explanation for this decision is the tendency of firms to fully outsource logistics operations whose capabilities they lack in-house [51] while shifting their focus on the bottom-line thus ignoring the potential of leveraging transportation for strategic advantage.

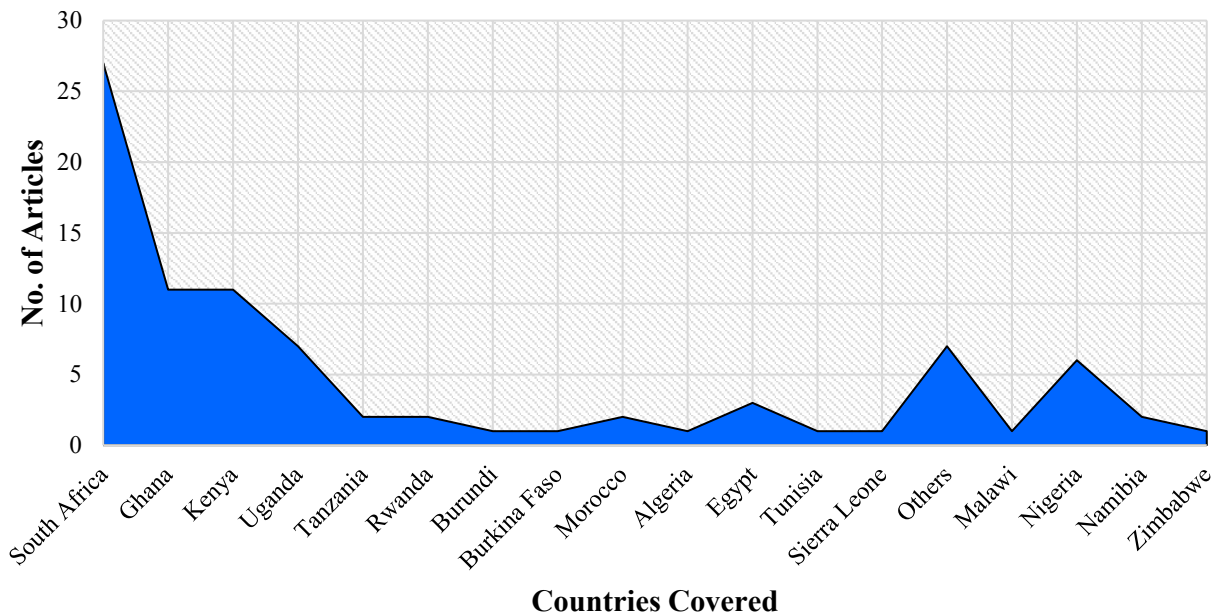


Figure 4: Distribution by Country

4. RESULTS AND DISCUSSION

This section contains the findings and the discussions of the review process.

4.1 Logistics Services provided by LSPs

The review yielded several logistics activities offered by LSPs in Africa as discussed below.

4.1.1 Transportation

Transportation is the dominant logistics activity offered by LSPs in Africa for a number of reasons. First, it requires heavy investment in fleet and management that either a firm lacks or would rather use to finance its core business activity [50, 51]. Moreover, the underdeveloped infrastructure (road networks, rail networks, sea ports, and airports) makes it expensive for a firm to internally manage its transportation operations [52]. Second, outsourcing firms are keen on high service quality levels achievement and LSPs specializing in transportation can guarantee this needed efficiency. Third, the availability of LSPs with expertise in transportation services has made it easy for outsourcing firms to access such services at shared costs. It is noteworthy that transportation is among the

4.1.2 Warehousing

Warehousing falls under the category of traditional logistics activities that are often outsourced to LSPs. The literature confirms this position by averring that after transportation, warehousing is the second most outsourced activity [51, 54]. One reason that cuts across most of the studies reviewed was the joint management of warehousing and transportation by a single provider. Whenever a firm opted to outsource transportation, warehousing was also proposed, and more often than not, firms were likely to contract the LSPs for both logistics services [49]. Just as was the case with transportation, the objective is usually to cut costs, provide efficiency, and offer operational support to the service user. Additionally, LSPs offer technological support to improve the service quality levels in warehousing activities through, for example, warehousing management systems (WMS) [55]. Overall, this is a demonstration that even though warehousing is a traditional logistics activity, it has improved by embracing technology and progressive management to be responsive to the growing needs of outsourcing firms in Africa. It is established that firms outsource warehousing activities to LSPs as an operational function and just like in transportation,

warehousing has no strategic positioning and thus remains at the operational level to satisfy cost-cutting and service efficiency objectives. Consequently, the warehousing function is underutilized even though it has the potential to be strategically aligned with the overall business goals and supply chain objectives to achieve competitiveness.

4.1.3 Inventory Management

Controlling inventory is central to a firm's operations, especially when dealing with large volumes of materials and products. Firms in Africa have had their inventories managed by LSPs for a while due to lack of requisite technology and expertise [20, 56]. In almost all cases, inventory control is combined with warehousing for integrated management, which is provided under the 'one-stop shop' concept. No literature mentioned any LSPs that offer stand-alone inventory management services. Therefore, the logical conclusion that could be drawn from this result is that the need for an integrated logistics service offerings of the erstwhile traditional logistics functions. At the center of this integrated management is cost reduction, efficiency, and improved service quality levels that are critical to firms' performance. Despite this management approach, the inventory control function is still treated as an operational logistics activity by most firms and no effort is made to make it a strategic activity. Therefore, firms operating in Africa hardly crystallize value-added inventory control practices such as vendor-managed inventory (VMI) arrangements; collaborative planning, forecasting, and replenishment (CPFR); just-in-time (JIT) systems; and technology integration [57] to increase their competitiveness.

4.1.4 Distribution Management

It is not uncommon for warehousing and distribution management to be executed by a single provider in this region. The literature reviewed delineated distribution management as encompassing order fulfillment, transportation, warehousing, and cross-docking [58]. This indicates that outsourcing distribution management to LSPs also implies outsourcing the attendant logistics activities, mentioned above. Still, other firms prefer holding on to singular logistics activities, as earlier mentioned, while using contract logistics to manage distribution. The latter firms contract LSPs to design their distribution channels and networks, which is not only complex but also time and resource-consuming [59]. Besides, it requires a degree of expertise that more often than not, is internally lacking from the majority of outsourcing firms operating in Africa. For example, El Baz *et al.* [49] show how firms in the region use LSPs to build robust distribution networks, channels, and centers to achieve excellent value chains. Owing to the complexities of distribution management tasks, it suffices to conclude that LSPs that offer it are well-equipped and capable of combining both operational and tactical managerial

dexterities for optimum performance. Nevertheless, it emerged that most firms in Africa consider distribution management as an operational activity thus limiting its strategic capabilities. However, firms that align the distribution function with their overall strategies have experienced its strategic potential in the form of last-mile deliveries, network planning, and scalability and flexibility in terms of seasonal variations and demand fluctuations [60, 61].

4.1.5 ICT Services

Due to the critical role that information technology plays in outsourcing firms' operations, many embraced advanced technologies, albeit gradually. ICT services described in this study comprised all telecommunication, information, internet, multimedia, and audiovisual technologies that facilitate the processing, modification, and exchange of information, as well as digitized data according to Vernier *et al.* [62]. The acquisition and operations of these technologies require hard resources as well as professional knowledge and skills that are lacking in most firms. Added to this inadequacy is the constant development and advancement characterizing the nature of technology that presupposes handling by experts (LSPs). The literature showed that as firms demand ICT services, large multinational LSPs are stepping up to offer some variants on a limited scale. Subsequently, the remaining gap is filled by homegrown (start-up) LSPs that specialize in innovation and technology. However, the latter's operations are limited by lack of resources for expansion and advancement hence, collaborating with multinational LSPs to provide advanced ICT services to a broader clientele [63]. Outsourcing decision in favor of ICT services is therefore underlain by the need minimize cost, improve service efficiency, and harness the expertise and technology provided by LSPs.

4.1.6 Freight Forwarding

Freight forwarding comprises activities of bulk forwarders, consolidators, and specialized export forwarders as Pedersen [64] noted. It emerged from the review that nearly all firms rely on LSPs for their freight forwarding activities. Firms located in the hinterlands and those operating in landlocked countries were found to be major beneficiaries of LSPs operations. The underdeveloped hard infrastructure in this continent is a setback to upcoming LSPs given the industry's high cost of operations that make it difficult to break even without passing the cost over to outsourcing firms. The latter would then react by turning to the more established LSPs whose prices are relatively fair owing to their dominance in the logistics market. It was further established that freight forwarding operations fall at the intersection between tactical and strategic decision with the focus on resource allocation to align its operations with the outsourcing firm's overall strategic goals [50]. Accordingly, freight forwarding

is influenced by the ability of LSPs to provide a ‘one-stop-shop’ for all freight logistics, responsibilities, and related administrative works. Consequently, LSPs in this line of service are developing a total-service-capability portfolio to attract clients [65].

4.1.7 Order Management

Some firms operating in Africa contract LSPs to manage customers’ orders from receipt, tracking, and finally to fulfillment. These firms are basically from the fast-moving consumer goods (FMCG) sector where large quantities of product mix are ordered by distribution centers and/or retailers acting as a link between the firm and end-user customers [59, 66]. It is a strategic move to offer high service quality to customers by contracting LSPs that have the technology and expertise for order processing and fulfillment. The growth of the LSPs market with specialized capabilities is a boon to the service users. These providers, nevertheless, are not very established since they are mostly domestic logistics companies that work in partnerships to build their capacities [21]. As things stand currently, the cost of providing order management services is high and outsourcing firms make decisions that trading off cost for service quality with the hope of being competitive and profitable eventually.

4.1.8 Reverse Logistics

Reverse logistics is outsourced by some manufacturing firms to respond to customers’ complaints and address recycling needs and safe disposal of packaging materials after product end-of-life cycle. To be effective, it requires a carefully planned and managed distribution channel that not only handles the forward movement of goods but also the backward flow. Given that distribution management is largely outsourced, it implies that reverse logistics can be an integral

activity within outsourced distribution management. Some LSPs offer reverse logistics operations under distribution management as alluded to by El Baz and Laguir [7]. Drivers of reverse logistics outsourcing emanate from the challenges associated with costs, information systems problems, as well as organizational and management problems [67]. As such, LSPs are better placed to handle firms’ reverse logistics operations due to their ability to share the associated risks that would otherwise be wholly carried by the firm. Moreover, the gradual development of specialized LSPs in the African logistics markets has allowed firms to form partnerships and jointly design and implement reverse logistics in their supply chains. However, it is noteworthy that LSPs offering these services are few and far between.

4.1.9 Packaging

Product packaging and design is outsourceable to LSP given the complexities that characterize this logistics activity. Even though it is not very widely researched as indicated in the review, suffice it to say that it is practiced by some firms, especially in line with product protection and marketing. For instance, manufacturing SMEs operating in Kenya have opted to outsource packaging for the reason that they cannot handle it internally due to their small staff population coupled with limited expertise and resources [51]. Contract logistics thus allows them to access the packaging capabilities lacking in-house to meet customers’ needs as well as to guarantee repeat purchases.

A summary of the major logistics activities outsourced by firms operating in Africa is provided in Table 2 (cf. Appendix II), while other logistics activities deemed to be medially outsourced are illustrated in Figure 5.

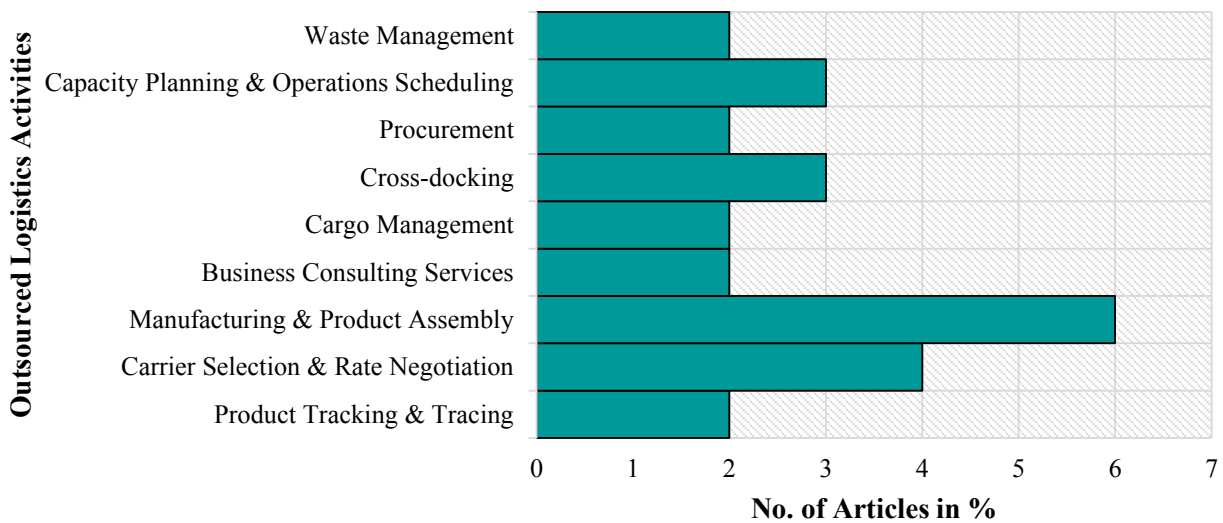


Figure 5: Medially outsourced logistics activities

4.2 Customer Requirements and Growth of LSPs

Drivers behind the growth of LSPs are rooted in the customers' needs and expectations. As recipients of these challenges, outsourcing firms contract LSPs to jointly and/or severally to address customer requirements. The following are some of the major customer requirements and corresponding solutions provided by LSPs on behalf of outsourcing firms.

4.2.1 Affordable Pricing

Over the years, customers have become more aware of the need to pressure firms to reduce their prices. The literature published in the later decade shows a pattern of an enlightened and assertive customer who demands low-cost prices of commodities [68, 69, 70]. To respond to this demand, firms intentionally re-evaluate their operations intending to cut down on production costs. As discussed in the previous section, transportation being the most cost-absorbing logistics function in Africa is carefully managed to avoid driving up the cost of everything else in the supply chains. Therefore, contracting LSPs to offer transportation services to achieve cost reduction and efficiency is expedient to outsourcing firms. The literature avers that a shift from road to rail freight transport can provide a reprieve to the high cost of transportation experienced in Africa due to overreliance on road transport [19]. Rail transport develops market opportunities by leveraging technologies such as bearing, guiding, and coupling to economically offer transportation services. However, it is the mandate of governments to develop railway networks to open up the continent to trade. LSPs are beginning to embrace multimodal transportation in the face of this infrastructural challenge to offer integrated logistics services including transportation optimization. Since LSPs cannot single-handedly accomplish this feat, collaborations and partnerships are common in the logistics outsourcing market. These alliances are driven by the need to develop superior transportation capabilities that not only enable LSPs to reduce the cost of freight movement but also to increase their competitiveness. The combination of multimodal transportation and partnerships among LSPs can potentially reduce the cost of transportation to enable firms effect the same in their production cost and eventually offer affordable prices to customers.

4.2.2 Delivery Patterns

Patterns of commodity delivery have concerned customers over the years and the extant literature paints a picture of frustrated customers demanding that firms become reliable and accurate when making deliveries [71, 72]. Customers are keen on reducing lead times and are beginning to embrace last-mile deliveries [60, 61, 73]. To be responsive, firms need to adjust their operations accordingly to offer such customized services. But downstream deliveries are dependent on

many factors such as accurate demand forecasting, transportation, production planning and scheduling, and distribution. Achieving these objectives has been difficult since the delivery services are provided under distribution management, which does not focus on the aforementioned value-added activities. However, to stay competitive, LSPs are gradually improving information management through innovation to harness such technologies as vendor-managed inventory (VMI) and just-in-time (JIT) for storage, artificial intelligence (AI) for dynamic routing decisions, mobile applications, and cargo tracking devices. Moreover, the evolution of 3PLs to fourth-party logistics providers (4PLs) [74, 75] as well as LLP is making LSPs provide complex and specialized logistics services to their clients. Lastly, LSPs have adopted supply chain agility strategies, built a culture of teamwork, communication, and good customer service; ensured supply chain integration; and offered training of personnel, to address customers' delivery demands. Outsourcing firms therefore leverage these specialties of LSPs to meet customer delivery requirements.

4.2.3 Environmental Sustainability

The expectation of customers is for firms' operations to have a benign effect on the natural environment. Global warming and its pernicious effects is hitting Africa the hardest to the extent that enlightened customers are starting to demand action from manufacturers. From transportation and production to packaging and distribution, firms operating in Africa seemed to care less about carbon footprints resulting from their operations [76]. However, this attitude is slowly changing courtesy of consumers' sustained demand for environmentally sustainable business operations. Without the requisite expertise and resources, firms are turning to LSPs to design green supply chain models that can be adopted [77]. The models are intended to guide on clean energy use for industrial production and transportation; recyclable packaging materials; and safe disposal of waste. The challenge, though, is the difficulty of finding LSPs that fit the right profile to offer these services. Only a few LSPs have developed capabilities by aligning their goals with the ecological sustainability needs of specific outsourcing firms [78]. For instance, LSPs with reverse logistics capabilities could enable outsourcing firms to address their unique waste management and recycling issues. Other LSPs focus on developing technologies to address specific environmental sustainability needs of prospective clients [53]. Still, some LSPs collaborate with their established counterparts to build their environmental sustainable capabilities. Logistics markets in Africa, therefore, require more specialized LSPs to tackle ecologically related operations on behalf of outsourcing firms. Partnerships between large LSPs and start-ups are one way of building such capabilities.

4.2.4 Service Quality

Quality plays a crucial role in purchase decisions made by customers and as a result, firms are focusing their attention on quality service offerings. Since quality delivery is mostly embedded in organizational culture and strategy, firms without proper quality policies contract LSPs to streamline their operations and achieve quality performance [54]. The second step is to formally introduce a quality management philosophy starting with the corporate leadership. Dibetso *et al.* [79] and Savage *et al.* [18] noted that when employees get trained to be effective and innovative, leadership is witnessed within the company. LSPs would seek specialized resources and capabilities to enable the re-engineering of clients' operations for quality attainment [80]. Compliance with the ISO 9000 standards is also considered an important aspect of quality assurance for which LSPs are building the capacity to offer certification. Organization-wide implementation of the quality standards as required by ISO 9001 in particular, paves the way for 4PLs to ply their trade. However, it must be noted that LSPs with specialized capabilities to provide the outlined activities are not fully developed in the African logistics market.

4.2.5 Technological Innovation

Technology is needed by firms to appropriately respond to the myriad demands of customers, some of which have already been mentioned. Convenience and efficiency are valued by customers and firms respectively, and they can only be realized through technological innovation. While convenience is achieved through last-mile deliveries, online shopping options, and product mix offerings; efficiency enables firms to minimize production costs and maximize returns [60]. Firms operating in Africa are limited by resources and expertise to have cutting-edge technologies that can improve their operations. Instead, they turn to LSPs for this much-needed support. The LSPs on the other hand, are not fully equipped to provide these services, due partly to their nascence in the business coupled with the primitive nature of communication infrastructure [81]. Nonetheless, there are few multinational LSPs with adequate resources but choose to apply selected technological innovation such as 3D printing, variants of logistics 4.0, and blockchain technology due to policy restrictions and the underdeveloped infrastructural support.

Table 3 (cf. Appendix III) summarizes customer requirements with their corresponding LSPs adaptations.

4.3 Technology and Logistics Outsourcing in Africa

From the foregoing discussion, it is evident that the logistics industry in Africa is gradually adopting

technology to compete on the global stage. Researchers explain how various technologies have been used by LSPs to achieve efficiency and effectiveness in product and/or service delivery. The major advanced technologies used by LSPs operating in Africa is discussed under this section.

4.3.1 Internet of Things (IoT)

The logistics industry in Africa has become digitalized as revealed in the literature. Mostly, LSPs with a high capital base and are often subsidiaries of foreign multinationals, apply IoT technologies in their operations [82]. This is implemented to enhance the connectivity of goods, improve visibility, and achieve a high level of efficiency and effectiveness. With this service available, outsourcing firms can maximize efficiency at minimal cost while improving time and having better control of their operations. Bag *et al.* [81] for example, observed that IoT enables LSPs to monitor the condition of goods in transit as they are useful in vehicle fleet management. IoT is helpful to LSPs in tracking the location of products, packages, and shipping containers at each step in real-time [83, 84, 85]. As such, LSPs leverage this technology to not only reduce the cost of operations through efficiency but also to respond to the demands of firms that have increasingly become digitalized. However, it must be emphasized that only a small percentage of LSPs are capable of applying IoT in their operations. Most of the providers are still using basic technological tools such as mobile applications and radio frequency identification (RFID) since they are cheap and readily available, unlike IoT technologies [81, 82]. Regardless, this technology applies to most outsourced logistics activities discussed in the earlier section to achieve cost efficiency and other value-added benefits. Transportation, warehousing, and distribution management are just but a few outsourced logistics activities whose operations could be optimized through the application of IoT were LSPs to increase their capabilities.

4.3.2 Blockchain Technology

Blockchain technology has become the new pillar of distributed ledgers tracing the chronology of the chain of 'blocks' that contains information on network activity [84]. It is the prevalent technology applied by LSPs across Africa [62, 81, 82]. The reason is that the majority of outsourcing firms have implemented it and it is easy to synchronize their operations with those of LSPs. The technology has enabled supply chain partners to share real-time information on who is performing what action, when, and where along the supply chain thereby creating mutual trust among actors [62, 82]. In this way, blockchain improves supply chain dependability by forcing partners to be responsible and accountable for their actions. Key drivers to the use of this technology include cost-effectiveness in terms of

reducing physical interactions and use of paperwork; control of losses or damages of goods in transit through early detection; increased speed of operations due to digitalization; and sustainability. Maersk provides an example of a logistics company that has successfully used blockchain technology in Africa [83]. DHL also sponsors the Saloodo project, a variant of blockchain technology, in South Africa that offers an online platform allowing manufacturers and suppliers to connect with carriers and forwarders [63]. Suffice it to say that digital technology is promising for logistics in Africa and the onus is with the stakeholders to develop technological capabilities to fully exploit its benefits.

4.3.3 Cloud Computing

Some LSPs are embracing cloud computing to optimize their operations, even though their number is still low. The technology facilitates computing in a 'pay-as-you-go' method and enables firms to reduce in-house expenses such as software, hardware, and maintenance intelligent automation tools (laser and RFID scanners, robotic warehouse complexes, and autonomous transport). As Tadesse *et al.* [82] explain, LSPs providing cloud computing services enable the visibility of items and monitoring of the equipment deployed for materials handling to have control and achieve efficiency. It therefore facilitates the interactions among stakeholders within the chains, especially at the management level to address issues affecting the value chains. Outsourcing firms have managed to achieve this interaction at minimal costs thereby saving money to invest in other projects. Besides, LSPs implement cloud computing to shorten lead times, improve quality, and facilitate quick and sustainable quality logistics decisions [81]. Basically, this is in response to the growing needs and expectations of customers outlined in the previous section, where outsourcing firms contract better-equipped LSPs to offer solutions to the logistics problems associated with the new customer requirements.

4.3.4 Artificial Intelligence (AI)

Given the scarcity of literature on the use of AI by LSPs in Africa, it can be presumed that the technology is not widespread among LSPs on the continent. This could probably be due to the heavy investment in tangible and intangible assets required to operate it. However, the few LSPs that utilize it do so for operational efficiency, revenue generation, and competitiveness [81, 82]. It was evident that AI is applied through autonomous guided vehicles (AGVs) as used in warehouses for material handling; and other intelligent automation tools including laser, RFID scanners, quick response (QR) code scanners, etc. [82, 86]. The sparing use of AI by LSPs in this region shows the technological underdevelopment experienced in terms of capacity building and resource mobilization. Additionally,

governments have neglected to modernize the soft infrastructure that can spur technological advancement in their respective countries. AI is a powerful technology with the potential to revolutionize the logistics and supply chain landscape in Africa. With collaborations and partnerships among LSPs operating in Africa, the use of AI can be expanded to enhance performance in the logistics sector.

4.3.5 Big Data Analytics (BDA)

Once IoT tools and blockchain technologies have gathered data from a firm's supply chain network, big data analytics techniques are used to analyze the data for meaningful interpretations and decision-making [81, 82]. Logistics firms in Africa are gradually embracing BDA to efficiently manage their logistics operations. For example, they use the technology in fleet management to reduce car accidents and emissions caused by trucks. It is also used to improve quality and competitiveness; make quick and quality logistics decisions; and for accurate forecasting and demand control [87]. In essence, AI applications can be integrated in the management of logistics activities to address the ever-changing customer requirements already outlined. Just like AI, the use of BDA is not common among LSPs in Africa since it requires a lot of expertise and resources which most of them lack. Moreover, it works best when integrated with other advanced technologies such as logistics 4.0, some of which are scarcely being used in the region [81].

4.3.5 Enterprise Resource Planning (ERP)

ERP system is one of the widely used technologies by LSPs in this region. It refers to a business-integrated information system responsible for real-time transaction processing [87]. The system is designed to manage all the processes of an outsourcing firm to facilitate decision-making. It majorly supports firms in tracking orders by gathering data commodities within the supply chain network. ERP technology is a forerunner of blockchain technology with fewer features than the latter. Buying the ERP software and training staff on its usage is affordable in this region hence its popularity with LSPs as well as with outsourcing firms. It could also be argued that familiarity with other users of ERP within the logistics industry in Africa has influenced the uptake of the technology. By and large, LSPs have benefitted from ERP and it could take a while before the industry completely transitions to the higher version of ERP – blockchain technology.

From the previous discussion, technology adoption is critical to the performance of logistics industry regardless of the region. Given the nature of logistics outsourcing activities provided by LSPs and the ever-changing customer requirements shaping their growth, these technologies work as catalysts to performance

optimization. As such, an integrated approach to jointly manage logistics activities by both outsourcing firms and LSPs could be a game-changer in the African logistics industry. Table 4 (cf. Appendix IV) presents a summary of the major technologies adopted by LSPs in Africa and a sample of corresponding papers from which they have been extracted.

5. CONCLUSION

The logistics industry in Africa is vibrant owing to its position as a logistics hub for global supply chains. LSPs are a critical component of this industry that perform logistics operations of outsourcing firms and other members of supply chains. Despite their role, LSPs in the African region face major challenges that stifle their growth. These include economic hardships that deprives them of monetary resources; poor governance from political leadership that results in punitive business policies and tax regimes; civil strife that leads to supply chain disruptions; both hard and soft infrastructural deficiencies that breed inefficiency and curtail industry expansion; just to mention a few. Against this background, the review established that most LSPs are only capable to performing traditional/operational-level logistics services while occasionally applying selected advanced technologies in their operations.

The underlying narrative emerging from the literature is the inability of outsourcing firms to view logistics outsourcing as a strategic activity instead of relegating it to the tactical and/or operational levels. Consequently, most outsourcing firms hardly record stellar performance in the logistics management front nor become competitive. However, outsourcing firms cannot be entirely at fault since LSPs are also offering the bare minimum given the challenging environments under which they operate. The enduring blight arising from this situation is the unsustainable high cost of logistics operations in Africa that must be addressed to make the region a competitive global logistics hub. In response to this need, LSPs have come to this realization and are aspiring to optimize their operations through adoption of best practices in the global logistics outsourcing industry. Logistics efficiency and responsiveness exemplify these best practices, which then behooves African-based LSPs to build capabilities and extend their service portfolio in order to stay competitive. Moreover, outsourcing firms are invited to drop the *laissez-faire* attitude to managing logistics operations even if they are fully outsourced to LSPs. Instead, they should be actively involved especially given the capacity challenges of LSPs.

Therefore, the proximal (medium-term) future growth prospects of African-based LSPs lie in their evolution towards acquiring LLP status. Africa as a global logistics hub needs a robust logistics industry that is propped up by LSPs with advanced capabilities to address dynamic customer requirements. The increased volume and scope of logistics activities demanded by outsourcing firms from these LSPs nudge them to first evolve into LLP before assuming the role of supply chain orchestrators. Becoming LLP enables the erstwhile LSPs to build on the existing capabilities in addition to delivering a total supply chain solution for performance enhancement. This is tenable through business process outsourcing where LLP aligns and manages its resources, capabilities, and technologies with those of complementary service providers to offer supply chain solutions [123]. However, this path is strewn with obstacles that LSPs must overcome to fully attain this stature. It requires for example, public-private partnerships to build requisite infrastructural support upon which the said operations are to be anchored. Admittedly, a transition from LLP to supply chain orchestrators is a remote possibility owing to the current asymmetry of economic transformation spearheaded by governments and investment trends (both domestic and foreign) in Africa.

Transitioning from LLP to supply chain orchestrator would be the zenith of African-based LSPs evolution. Here, they would embrace standardized processes to enhance supply chain visibility and become neutral arbitrators in the supply chain network [124]. The latter role would win them trust from members of a supply chain network, hence the ability to advocate change unhindered and further midwife collaboration across the network to create synergies. Ultimately, African-based LSPs will need to position themselves as strategic suppliers that effectively integrate logistics operations of their clients' supply chains to facilitate customer satisfaction and achieve operational competitiveness [125]. The conceptual model in Figure 6 illustrates these future growth potentials.

In summary, by presenting a systematic review of logistics outsourcing practices in Africa, this paper makes a theoretical contribution by demonstrating how the unique challenges in Africa are shaping the future growth of African-based LSPs. This is done by delineating a nexus between RBV and evolutionary economics that enables LSPs to build internal capabilities by acquiring external resources (mainly modern technologies) to address the challenges in its operating environment (inadequate infrastructure and the ever-changing customer needs). Related prior studies have applied the RBV thus justifying its use in the current study. Additionally, by pairing it with the evolutionary economics theory, novelty is created through theory extension, hence a theoretical

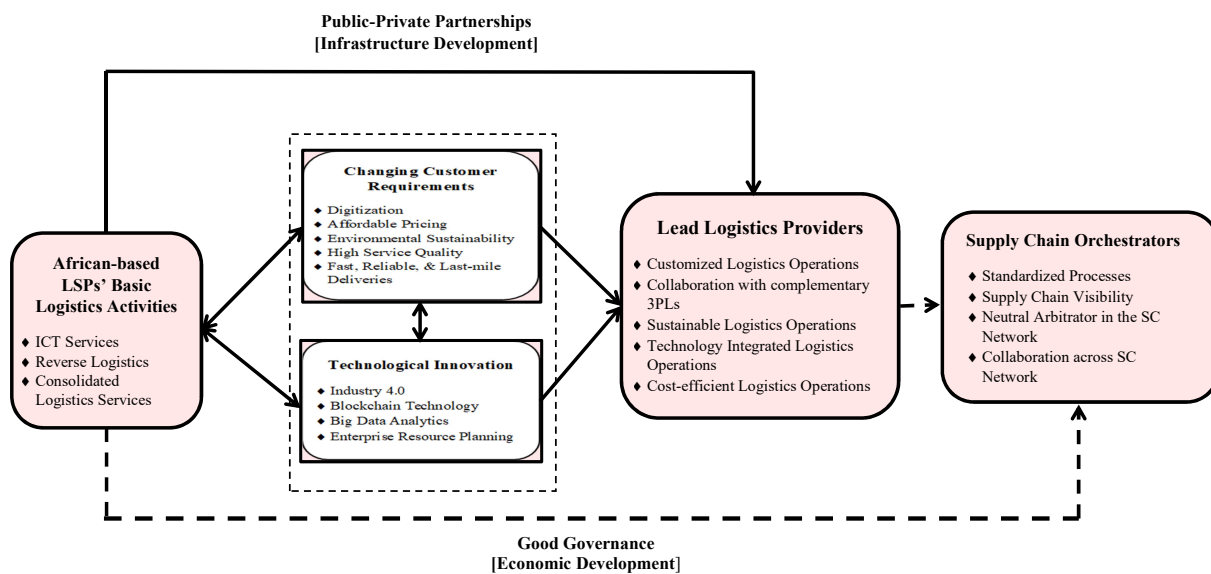


Figure 6: Conceptual model

contribution to the literature on logistics outsourcing. Nevertheless, the resultant theoretical contribution is limited to the reviewed literature which therefore calls upon future researchers to validate it via empirical research.

Although this paper focused on the theoretical understanding of logistics outsourcing in Africa, it identified some practical implications to various stakeholders. First to managers who could make logistics outsourcing a strategic function to not only drive down logistics cost but also to deliver value for overall customer experience. This is more relevant, especially, at this time when LSPs are looking

to internally optimize their operations and build specialized portfolios in order to be responsive to the changing needs of customers. Secondly, the future growth of LSPs lies in strategic collaborations with other service providers that managers could exploit to expand their capabilities. Lastly, it is established that infrastructural development is the weakest link in the growth and development of the logistics industry. Therefore, relevant government agencies could partner with other development agencies to build infrastructure that is to facilitate trade across the continent. Moreover, to realize the full potential of LSPs as supply chain orchestrators, good governance with policies that foster free trade and economic development is needed.

REFERENCES

1. Selviaridis, K. and Spring, M. (2007), "Third-party logistics: a literature review and research agenda", *International Journal of Logistics Management*, Vol. 18 No. 1, pp. 125 – 150. DOI: <https://doi.org/10.1108/09574090710748207>
2. Negi, S. (2021), "Supply chain efficiency framework to improve business performance in a competitive era", *Management Research Review*, Vol. 44, No. 3, pp. 477 – 508. DOI 10.1108/MRR-05-2020-0272
3. Langley, C.J. (2020), *2021 third-party logistics study – the state of logistics outsourcing: Results and findings of the 25th annual study*. Retrieved from: https://www.3plstudy.com/ic3pl/ic3pl.ic3pl.ic3pl_index
4. Chapman, R. L., Soosay, C. and Kandampully, J. (2003), "Innovation in logistics services and the new business model: A conceptual framework", *International Journal of Physical Distribution & Logistics Management*, Vol. 33, No. 7, pp. 630 – 650.
5. Kalkha, H., Khiat, A., Bahnasse, A., and Ouajji, H. (2023), "The Rising Trends of Smart E-Commerce Logistics", *IEEE Access*, Vol. 11 No. (), pp. 33839 – 33857. DOI: 10.1109/ACCESS.2023.3252566
6. Matusiewicz, M. and Książkiewicz, D. (2023), "Shared Logistics - Literature Review", *Applied Sciences*, Vol. 13, No. 4, pp. <https://doi.org/10.3390/app13042036>
7. El Baz, J. and Laguir, I. (2017), "Third-party logistics providers (TPLs) and environmental sustainability practices in developing countries: The case of Morocco", *International Journal of Operations & Production Management*, Vol. 37 No. 10, pp. 1451 – 1474. DOI: <https://doi.org/10.1108/IJOPM-07-2015-0405>
8. Leke, A., Chironga, M., and Desvaux, G. (2018), *Africa's Business Revolution: How to succeed in the world's next big growth market* (1st ed.). Harvard Business Review Press.
9. Luke, R., Walters, J. (2023), "Logistics Challenges and Opportunities in Africa in the 2020s". In: Merkert, R. and Hoberg, K. (eds) *Global Logistics and Supply Chain Strategies for the 2020s*. Springer, Cham. https://doi.org/10.1007/978-3-030-95764-3_21
10. Smith, T. (2020). *Factors impacting the development of Africa's infrastructure*. Retrieved from: <https://www.esi-africa.com/finance-and-policy/factors-impacting-the-development-of-africas-infrastructure/>
11. Größler, A. Laugen, B.T., Arkader, R. and Fleury, A. (2012), "Differences in outsourcing strategies between firms in emerging and in developed markets", *International Journal of Operations & Production Management*, Vol. 33 No. 3, pp. 296 – 321. DOI 10.1108/01443571311300791
12. Aguezzoul, A. (2014), "Third-party logistics selection problem: A literature review on criteria and methods", *Omega*, Vol. 49, pp. 69 – 78. DOI:10.1016/j.omega.2014.05.009
13. Behrends, S. (2016), "Recent developments in urban logistics research – a review of the proceedings of International Conference on City Logistics 2009 – 2013", *Transportation Research Procedia*, Vol. 12, pp. 278 – 287.
14. Akbari, M (2018). "Logistics Outsourcing: A structured literature review", *Benchmarking: An International Journal*. DOI: <https://doi.org/10.1108/BIJ-04-2017-0066>
15. Luo, W., Van Hoek, R.I. and Roos, H. H. (2001), "Cross-cultural Logistics Research: A Literature Review and Propositions", *International Journal of Logistics Research and Applications*, Vol. 4 No. 1, pp. 57–78. DOI: <https://doi.org/10.1080/13675560110038077>
16. Machuve, D., Mjema, E., Trojer, L. and Zlotnikova, I. (2015), "Conceptual model of information logistics in value chain analysis of food processing SMEs in Tanzania", *Journal of Mathematical and Computational Science*, Vol. 5 No. 4, pp. 517 – 537.
17. Mpanza, Z. (2015), "Developing a conceptual transport or logistics model for small-scale farmers' logistics challenges faced by small-scale farmers in South Africa", *International Conference on Industrial Engineering and Operations Management (IEOM)*, Dubai, United Arab Emirates. DOI: <http://doi: 10.1109/IEOM.2015.7093864>.
18. Savage, C., Fransman, L. and Jenkins, A. (2013), "Logistics in Namibia: issues and challenges" *Journal of Transport and Supply Chain Management*, Vol. 7 No. 1, pp. 1 – 8. DOI: <http://dx.doi.org/10.4102/jtscm.v7i1.86>
19. Havenga, J. H., Simpson, Z., Fourie, P.F. and DeBod, A. (2011), "Sustainable freight transport in South Africa: Domestic intermodal solutions", *Journal of Transport & Supply Chain Management*, Vol. 5 No. 1, pp. 149 – 169. DOI: <https://doi.org/10.4102/jtscm.v5i1.26>
20. Karrapan, C., Sishange, M., Swanepoel, E. and Kilbourn, P.J. (2017), "Benchmarking criteria for evaluating third-party logistics providers in South Africa", *Journal of Transport and Supply Chain Management*, Vol. 11, pp. a305. DOI: <https://doi.org/10.4102/jtscm.v11i0.305>

21. Mageto, J., Prinsloo, G. and Luke, R. (2018a), "Logistics outsourcing and performance of manufacturing small and medium-sized enterprises in Nairobi", *Southern African Journal of Entrepreneurship and Small Business Management*, Vol. 10 No. 1, pp. a162. DOI: <https://doi.org/10.4102/sajesbm.v10i1.162>
22. Chakamera, C. and Pasi, N.M. (2020), "Associations between logistics and economic growth in Africa", *South Africa Journal of Economics*. DOI: 10.1111/saje.12272
23. Maltz, A.B. and Ellram, L.M. (2000), "Selling inbound logistics services: understanding the buyer's perspective", *Journal of Business Logistics*, Vol.21, No. 2, pp. 69 – 88.
24. Lieb, R.C. and Randall, H.L. (1999), "1997 CEO perspectives on the current status and future prospects of the third party logistics industry in the United States", *Transportation Journal*, Vol. 38 No. 3, pp. 28-41. DOI:10.2307/20713388
25. Razzaque, M.A. and Sheng, C.C. (1998), "Outsourcing of logistics functions: a literature survey", *International Journal of Physical Distribution & Logistics Management*, Vol. 28 No. 2, pp. 89-107. DOI: <https://doi.org/10.1108/09600039810221667>
26. Wilding, R. and Juriado, R. (2004), "Customer perception on logistics outsourcing in the European consumer goods industry", *International Journal of Physical Distribution & Logistics Management*, Vol. 34, No. 8, pp. 628 – 644. DOI:10.1108/09600030410557767
27. Mangan, J., Lalwani, C., Butcher, T. and Javadpour, R. (2012), *Global Logistics and Supply Chain Management*, 2nd ed. Wiley, Chichester.
28. Selviaridis, K. and Norrman, A. (2015), "Performance-based contracting for advanced logistics services: Challenges in its adoption, design and management", *International Journal of Physical Distribution & Logistics Management*, Vol. 45 No. 6, pp. 592–617.
29. Large, R.O. (2017), "Who buys logistics services? Organizational and occupational issues", *Supply Chain Forum: An International Journal*, Vol. 18 No. 1, pp. 7-12. DOI: <https://doi.org/10.1080/16258312.2017.1281076>
30. Doratiotto, K., Vieira, J.G.V., da Silva, L.E. and Favero, L.P. (2022), "Evaluating logistics outsourcing: a survey conduction with Brazilian industries", *Benchmarking: An International Journal*. DOI: <https://doi.org/10.1108/BIJ-06-2021-0341>
31. Hertz, S. and Alfredsson, M. (2003), "Strategic development of third party logistics providers", *Industrial Marketing Management*, Vol. 32 No. 2, pp. 139 – 149. DOI: [https://doi.org/10.1016/S0019-8501\(02\)00228-6](https://doi.org/10.1016/S0019-8501(02)00228-6)
32. Forslund, H. (2012), "Performance management in supply chains: logistics service providers' perspective", *International Journal of Physical Distribution & Logistics Management*, 42(3): 296 – 311. DOI: <https://doi.org/10.1108/09600031211225972>
33. Berglund, M., van Laarhoven, P., Sharman, G. and Wandel, S. (1999), "Third Party Logistics: Is there a future?", *International Journal of Logistics Management*, Vol. 10 No. 1, pp. 59 – 70. DOI: 10.1108/09574099910805932
34. Fadile, L., Oumami, E.M. and Beidouri, Z. (2018), "Logistics outsourcing: A review of basic concepts", *International Journal of Supply Chain Management*, Vol. 7 No. 3, 53 – 69.
35. AfDB/OECD/UNDP (2015), *African Economic Outlook 2015: Regional Development and Spatial Inclusion*, OECD Publishing, Paris, <https://doi.org/10.1787/aeo-2015-en>. Available at: www.africaneconomicoutlook.org
36. *The Economist* (2016), "African growth". Available at: <https://www.economist.com/economic-and-financial-indicators/2016/05/28/african-growth>
37. World Bank (2023), "Delivering Growth to People through Better Jobs", *Africa's Pulse*, No. 28. Washington, DC: World Bank. <http://hdl.handle.net/10986/40388>
38. Nelson, R.R. and Winter, S.G. (1982), *An evolutionary theory of economic change*. Cambridge, MA: Harvard University Press.
39. Witt, U. (2008), "What is specific about evolutionary economics?", *Journal of Evolutionary Economics*, Vol. 18, pp. 547 – 575. DOI: <https://doi.org/10.1007/s00191-008-0107-7>
40. Knight Frank (2016), *Logistics Africa 2016: Sub-Saharan Africa's Emerging Logistics Property Sector*. Retrieved from: <https://www.tralac.org/images/docs/10347/logistics-africa-2016-knight-frank.pdf>
41. Leke, A. and Signé, L. (2019), *Spotlighting opportunities for business in Africa and strategies to succeed in the world's next big growth market*. Retrieved from: https://www.brookings.edu/wp-content/uploads/2019/01/BLS18234_BRO_book_006.1_CH5.pdf
42. Kumar, D. and Prashar, A. (2022), "Linking resource bundling and logistics capability with performance: study on 3PL providers in India", *International Journal of Productivity and Performance Management*, Vol. (0) No. (0), <https://doi.org/10.1108/IJPPM-06-2022-0289>
43. Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

44. McIvor, R. (2009), "How the transaction cost and resource-based theories of the firm inform outsourcing evaluation", *Journal of Operations Management*, Vol. 27 No. 1, pp. 45 – 63. DOI: <https://doi.org/10.1016/j.jom.2008.03.004>
45. Winter, M. and Knemeyer, A.M. (2013), "Exploring the integration of sustainability and supply chain management: Current state and opportunities for future inquiry", *International Journal of Physical Distribution & Logistics Management*, Vol. 43 No. 1, pp. 18 - 38. DOI: <https://doi.org/10.1108/09600031311293237>
46. Seuring, S. and Muller, M. (2008), "From a literature review to a conceptual framework for sustainable supply chain management", *Journal of Cleaner Production*, Vol. 16 No. 15, pp. 1699 – 1710. DOI: <https://doi.org/10.1016/j.jclepro.2008.04.020>
47. Denyer, D. and Transfield, D. (2009), "Producing a systematic review", in Buchanan, D.A. and Bryman, A. (Eds), *The SAGE Handbook of Organizational Research Methods*. London, UK: Sage Publications, Ltd., pp. 671 – 689.
48. Malviya, R.K. and Kant, R. (2014), "Green supply chain management (GSCM): a structured literature review and research implications", *Benchmarking: An International Journal*, Vol. 22 No. 7, pp. 1360 – 1394. DOI: <https://doi.org/10.1108/BIJ-01-2014-0001>
49. El Baz, J., Laguir, I. and Stekelorum, R. (2019), "Logistics and supply chain management research in Africa: A systematic literature review and research agenda", *The International Journal of Logistics Management*, Vol. 30, No. 1, pp. 8 – 38. DOI: [10.1108/IJLM-09-2017-0242](https://doi.org/10.1108/IJLM-09-2017-0242)
50. Bloem, N. and Bean, W.L. (2015), "The application of outsourcing decision-making methods in logistics context in South Africa", *Journal of Transport and Supply Chain Management*, Vol. 9 No. 1, pp. 168 – 182. DOI: <http://dx.doi.org/10.4102/jtscm.v9i1.168>
51. Mageto, J., Prinsloo, G. and Luke, R. (2018b), "The extent of logistics outsourcing among small and medium-sized manufacturing enterprises in Nairobi", *Journal of Transport & Supply Chain Management*, Vol. 12, pp. a346. DOI: <https://doi.org/10.4102/jtscm.v12i0.346>
52. Tchanche, B.F. (2019), "A view of road transport in Africa", *African Journal of Environmental Science and Technology*, Vol. 13 No. 8, pp. 296 – 302.
53. Etokudoh, E.P., Boolaky, M. and Gungaphul, M. (2017), "Third Party Logistics Outsourcing: An Exploratory Study of the Oil and Gas Industry in Nigeria", *SAGE Open*, Vol. 7 No. 4. DOI: [10.1177/2158244017735566](https://doi.org/10.1177/2158244017735566)
54. Sohail, S.M., Austin, N.K. and Rushdi, M. (2004), "The use of third-party logistics services: Evidence from a sub-Saharan nation", *International Journal of Logistics Research and Applications*, Vol. 7 No. 1, pp. 45 – 57. DOI: <http://dx.doi.org/10.1080/13675560310001619268>
55. Omoruyi, O. (2020), "Logistics technology compatibility issues and integration challenges among SMEs in Vanderbijlpark", *International Journal of Business and Management Studies*, Vol. 12 No. 20. ISSN 1309 – 8047.
56. Nnamdi, O. and Owusu, R. (2014), "Africa as a source location: literature review and implications", *International Journal of Emerging Markets*, Vol. 9, No. 3, pp. 424 – 438. <https://doi.org/10.1108/IJoEM-09-2012-0123>
57. Aro-Gordon, S. and Gupte, J (2016), "Review of Modern Inventory Management Techniques", *Global Journal of Business and Management*, Vol. 1, No. 2., pp. 1 – 22.
58. Kilasi, B.L., Juma, D. and Mathooko, P.M. (2013), "The impact of outsourcing of logistics on the competitive advantage strategy of East African Breweries Ltd", *International Journal of Arts and Entrepreneurship*, Vol. 1 No. 3, pp. 1 – 8.
59. Rodrigues, S.V. and Potter, A. (2013), "A comparison of FMCG logistics operations in the UK and South Africa", *European Business Review*, Vol. 25 No. 4, pp. 351 – 364. DOI: <http://dx.doi.org/10.1108/EBR-02-2013-0014>
60. Laseinde, O.T. and Mpofo, K. (2017), "Providing solution to last mile challenges in postal operations", *International Journal of Logistics Research and Applications*, Vol. 20 No. 5, pp. 1 – 16. DOI: [10.1080/13675567.2017.1288712](https://doi.org/10.1080/13675567.2017.1288712)
61. Kiruja, K.A. and Ngugi, K. P. (2019), "Influence of Third Party Logistics Management on Performance of Level Four and Five Hospitals in Kenya", *International Journal of Social Sciences and Information Technology*, ISSN 2412 – 0294.
62. Vernier, C., Loeillet, D., Thomopoulos, R. and Macombe, C. (2021), "Adoption of ICTs in Agri-Food Logistics: Potential and Limitations for Supply Chain Sustainability", *Sustainability*, Vol. 13, pp. 6702. DOI: <https://doi.org/10.3390/su13126702>
63. Barykin, S.E., Kapustina, I.V., Korchagina, E.V., Sergeev, S.M., Yadykin, V.K., Abdimomynova, A. and Stepanova, D. (2021), "Digital Logistics Platforms in the BRICS Countries: Comparative Analysis & Development Prospects", *Sustainability*, Vol. 13, pp. 11228. DOI: <https://doi.org/10.3390/su132011228>
64. Pedersen, P. O. (2004), "Zimbabwe's changing freight transport and logistical system: Structural adjustment and political change", *Journal of Southern African Studies*, Vol. 30 No. 3, pp. 577-602. DOI: [10.1080/0305707042000254119](https://doi.org/10.1080/0305707042000254119)

65. Havenga, J. H. and Simpson, Z. (2014), "Reducing national freight logistics costs risk in a high oil price environment: A South African Case Study", *The International Journal of Logistics Management*, Vol. 25 No. 1, pp. 35 – 53. DOI 10.1108/IJLM-11-2012-0133
66. Njambi, E. and Katuse, P. (2013), "Third party Logistics in distribution efficiency delivery for competitive advantage in Fast Moving Consumer Goods Companies in Kenya", *International Journal of Social Sciences and Entrepreneurship*, Vol. 1 No. 8, pp. 15 – 27.
67. Badenhorst, A. and van Zyl, C. (2015), "Finding theoretical evidence to justify the outsourcing of reverse logistics", *Journal of Contemporary Management*, Vol. 12, pp. 144 – 163.
68. Muhindo, A., Zhou, J. & Mzuza, M.K. (2014), "Impact of Logistics Outsourcing Strategy in Oil and Gas Industry in Uganda", *International Journal of Business and Management*, Vol. 9 No. 6. DOI: <http://dx.doi.org/10.5539/ijbm.v9n6p187>
69. Macharia, N.W., Iravo, M., Tirimba, I.O. and Ombui, K. (2015), "Effect of Information Technology on Performance of Logistics Firms in Nairobi County", *International Journal of Scientific and Research Publications*, Vol. 5 No. 4, pp. 1 – 26. ISSN 2250-3153.
70. Nyameboame, J., Haddud, A. and Busi, M. (2017), "Exploring the impact of outsourcing on organizational performance", *Journal of Global Operations and Strategic Sourcing*, Vol. 10 No. 3, pp. 362 – 387. DOI:10.1108/JGOSS-01-2017-0001
71. Katana, M. and Gichure, M.J. (2017), "Influence of Third-Party Logistics Providers on Supply Chain Performance in Kenya: Case study of East African Breweries Limited", *The Strategic Journal of Business & Change Management*, Vol. 4 No. 17, pp. 307 – 326.
72. Wright, M., Forster, G. and Beale, J. (2017), "Improving iSC performance through outsourcing – considerations for using third-party service providers to increase innovation, capacity and efficiency", *Vaccine*, Vol. 35, pp. 2195 – 2197. DOI:10.1016/j.vaccine.2016.11.108
73. Ching-Chiao, Y. and Yu-Kuo, C. (2019), "Crucial factors influencing international logistics operations for African landlocked countries – A case study of Burkina Faso", *Maritime Policy & Management*, Vol. 46 No. 8, pp. 939 – 956. DOI: 10.1080/03088839.2019.1606464
74. Aktan, C., Sahin, E. and Basaran, N. (2016), "Relation of 3PL and 4PL activities and their effect on emerging economies", *International Journal of Management Economics and Business*. DOI:10.17130/ijmeb.2016icafri2240
75. Tukamuhabwa, B. R., Mutebi, H. and Kwagala, R. (2021), "Supply chain agility in third-party logistics providers: its relationship with institutional and cultural geographical traits in a developing country", *Journal of Economic and Administrative Sciences*. DOI: <https://doi.org/10.1108/JEAS-11-2020-0194>
76. Ebrahim, S., Niemann, W. and Kotzé, T. (2022), "Sustainable supply chain integration: An exploration of South African fast-moving consumer goods manufacturers", *South African Journal of Economic and Management Sciences*. On-line version ISSN 2222-3436.
77. Niemann, W., Hall, G. and Oliver, K. (2017), "South African 3PL firms' approaches to sustainable supply chain management", *Journal of Contemporary Management*, Vol. 14, pp. 204 – 237. Available from: <https://hdl.handle.net/10520/EJC-6aa70af1a>
78. Carrim, I., Agigi, A., Niemann, W. and Mocke, K. (2020), "The role of buyer-supplier relationships in enhancing sustainable supply chain management in a logistics services context", *Journal of Contemporary Management*, Vol. 17 No. 1, pp. 150 – 182. DOI:10.35683/jcm19099.60
79. Dibetso, O.G., Sutherland, M.M. and Scheepers, C.B. (2017), "Stakeholder views on the drivers and inhibitors of performance of outsourced information technology employees," *European Business Review*, Vol. 30 No. 4, pp. 446 – 469. DOI: <https://doi.org/10.1108/EBR-02-2017-0029>
80. Obeng, F., Mensah, J. and Anim, K. S. (2015), "Outsourcing Strategies of Mining Industries: An Empirical Evidence from a Developing Nation", *International Journal of Supply Chain Management*, Vol. 4 No. 4, pp. 90 – 101.
81. Bag, S., Gupta, S. and Luo, Z. (2020), "Examining the role of logistics 4.0 enabled dynamic capabilities on firm performance", *The International Journal of Logistics Management*, Vol. 31 No. 3, pp. 607 – 628. DOI 10.1108/IJLM-11-2019-0311
82. Tadesse, M.D., Gebresenbet, G., Tavasszy, L. and Ljungberg, D. (2021), "Assessment of Digitalized Logistics for Implementation in Low-Income Countries", *Future Transportation*, Vol. 1, pp. 227 – 247. DOI: <https://doi.org/10.3390/futuretransp1020014>
83. Kshetri, N. (2018). "1 Blockchain's roles in meeting key supply chain management objectives", *International Journal of Information Management*, Vol. 39, pp. 80 – 89. DOI: <https://doi.org/10.1016/j.ijinfomgt.2017.12.005>
84. Rejeb, A. (2018), "Blockchain Potential in Tilapia Supply Chain in Ghana", *Acta technical Jaurinesis*, Vol. 11 No. 2, pp. 104 – 118. DOI: 10.14513/actatechjaur.v11.n2.462

85. Farquharson, N., Mageto, J. and Makan, H. (2021), "Effects of Internet of Things on road freight industry", *Journal of Transport and Supply Chain Management*, Vol. 15, pp. a581. DOI: <https://doi.org/10.4102/jtscm.v15i0.581>
86. Saidi, S., Mani, V., Mefteh, H., Shahbaz, M. and Akhtar, P. (2020), "Dynamic linkages between transport, logistics, foreign direct investment, and economic growth: Empirical evidence from developing countries", *Transportation Research Part A: Policy & Practice*, Vol. 14, pp. 277 – 293. DOI: <https://doi.org/10.1016/j.tra.2020.09.020>
87. Isah, Y., Shakantu, W. and Ibrahim, S. (2020), "Utilization of forecasting technology for improving construction logistics in Nigeria", *Acta Structilia*, Vol. 27 No. 1, pp. 1 – 28. DOI: <http://dx.doi.org/10.18820/24150487/as27i1.1>
88. Pedersen, P. (2003), "Development of freight transport and logistics in Sub-Saharan Africa: Taaffe, Morill and Gould revisited", *Transport Review*, Vol. 23, Issue 3, pp. 275 – 297. DOI: <https://doi.org/10.1080/0144164032000091681>
89. Baki, B. and Ar, I.M. (2009), "A comparative analysis of 3PL applications in manufacturing firms from seven countries", *Supply Chain Forum: An International Journal*, Vol. 10 No. 1, pp. 16 – 30. DOI: <http://dx.doi.org/10.1080/16258312.2009.11517205>
90. Elzarka, S.M. (2013), "Supply chain risk management: the lessons learned from the Egyptian revolution 2011", *International Journal of Logistics research & Applications*, Vol. 16 No. 6, pp. 482 – 492. DOI: <https://doi.org/10.1080/13675567.2013.846307>
91. Lyndon, P., Raubenheimer, T., Arnot-Kruger, M. and Zaffran, M. (2015), "Outsourcing vaccine logistics to the private sector: The evidence and lessons learned from the Western Cape Province in South Africa", *Vaccine*, Vol. 33, pp. 3429 – 3434. DOI: <http://dx.doi.org/10.1016/j.vaccine.2015.03.042>
92. Ammar, A.M. (2018), "Outsourcing in non-developed supplier markets: a lean thinking approach", *International Journal of Production Research*, Vol. 56 No. 18, pp. 6048 – 6065. DOI: [10.1080/00207543.2018.1465609](https://doi.org/10.1080/00207543.2018.1465609)
93. Kuada, J. and Hinson, E. (2015), "Outsourcing in Ghana: An integrated perspective", *African Journal of Business & Economic Research*, Vol. 10 No. 2/3, pp. 47 – 86.
94. Wabwile, L.N. and Namusonge, G.S. (2015), "Determinants of outsourcing as a competitive strategy in supply chain management of manufacturing companies in Kenya: A case study of EABL", *International Journal of Academic Research in Business & Social Sciences*, Vol. 5 No. 5, pp. 190 – 202. DOI: <http://dx.doi.org/10.6007/IJARBS/v5-i5/1602>
95. Munanira, K.V. and Mulyungu, P. (2018), "The Effect of Third Party Logistics Service Providers on Supply Chain Performance in Rwanda Manufacturing Companies: A case of Bralirwa Limited", *International Journal of Research in Management Economics and Commerce*, Vol. 8 No. 5, pp. 102 – 114.
96. Oko, A.E.N. and Ogba, I. (2014), "Third Party Logistics Service Marketing and Economic Development: Study of the Speed Mail Business in Nigeria", *Management* *and Organizational* *Studies*, Vol. 1 No. 1, pp. 32 – 51. DOI: [10.5430/mos.v1n1p32](https://doi.org/10.5430/mos.v1n1p32)
97. Cachia, A. and Kruger, C.J. (2007), "Guidelines for identifying risk vulnerabilities associated with ICT sourcing", *South African Journal of Business Management*, Vol. 38, No. 4, pp. 1 – 20. DOI: http://www.journals.co.za/ej/ejour_busman.html
98. Johnston, K.A., Abader, T., Brey, S. and Stander, A. (2009), "Understanding the outsourcing decision in South Africa with regard to ICT", *South African Journal of Business Management*, Vol. 40 No. 4, pp. 37 – 49.
99. Opuku-Fofie, I. (2014). "Management of Logistics Outsourcing Activities at Maerskline Ghana Limited", *Africa Development and Resources Research Institute Journal*, Vol. 18 No. 8. DOI: [10.55058/adrii.v8i8.118](https://doi.org/10.55058/adrii.v8i8.118)
100. Mwai, N., Kiplang'at, J. and Gichoya, D. (2016), "Outsourcing information communication technology services in selected public university libraries in Kenya", *Journal of Humanities & Social Sciences*, Vol. 8 No. 1, pp. 44 – 56.
101. Nduwimfura, P. & Zheng, J. (2016), "A comparative analysis of IT outsourcing readiness in the East African community", *Iranian Journal of Management Studies*, Vol. 9 No. 2, pp. 243 – 264. Online ISSN: 2345-3745.
102. Maata, S.W. and Ombui, K. (2018), "Role of Third-Party Logistics Services on Supply Chain Performance in Distribution Sector in Kenya: A Case of Bolloré Transport & Logistics Kenya Limited", *International Journal of Supply Chain Management*, Vol. 3 No. 2, pp. 22 – 43. ISSN 2518-4709(Online).
103. Mlimbila, J. and Mbamba, U.O.L. (2018), "The role of information systems usage in enhancing port logistics performance: evidence from the Dar es Salaam port, Tanzania", *Journal of Shipping and Trade*, Vol. 3 No. 10, pp. 1 – 20. DOI: <https://doi.org/10.1186/s41072-018-0036-z>
104. Abbott, P.Y. (2013), "How can African countries advance their outsourcing industry? An overview of possible approaches", *The African Journal of Information Systems*, Vol. 5 No. 1, pp. 27 – 36.

105. Sumah, B., Masudin, I., Zulfikarijah, F. and Restuputri, D.P. (2020), "Logistics Management and Electronic Data Interchange Effects on Logistics Service Providers' Competitive Advantage", *Journal of Business and Economic Analysis*, Vol. 3 No. 2, pp. 171 – 194. DOI: <https://doi.org/10.36924/sbe.2020.3205>
106. Khaoula, A., Jabir, A. and Mohamed, B.B. (2021), "Exploratory Study of the Role of Logistics Service Providers in Terms of Traceability in the process of Outsourcing of Logistics' Activities: Case of Moroccan LSP", *International Journal of Engineering Research in Africa*, Vol. 54, pp.187 – 208. DOI: [10.4028/www.scientific.net/JERA.54.187](https://doi.org/10.4028/www.scientific.net/JERA.54.187)
107. Hanif, R. and Kaluwa, E. (2016), "Analysis of transport logistics challenges affecting freight forwarding operations in Malawi", *African Journal of Business Management*, Vol. 10 No. 24, pp. 607 – 614.
108. Kalinzi, C. (2016), "Outsourcing (Logistics) Services and Supply Chain Efficiency – A Critical Review of Outsourcing Function in Mukwano Group of Companies", *Journal of Outsourcing & Organizational Information Management*, Vol. 2016 (2016), Article ID 937323, DOI: [10.5171/2016.937323](https://doi.org/10.5171/2016.937323)
109. Weber, A.N. and Badenhorst-Weiss, J.A. (2018), "The last-mile logistical challenges of an omnichannel grocery retailer: A South African perspective", *Journal of Transport and Supply Chain Management*, Vol. 12, pp. a398. DOI: <https://doi.org/10.4102/jtscm.v12i0.398>
110. Badenhorst, A. (2017), "Management practices to mitigate barriers in reverse logistics", *Journal of Contemporary Management*, Vol. 14 No. 0, pp. 595 – 623.
111. Li, J., Anser, M.K., Tabash, M.I., Nassani, A.A., Haffar, M. and Zaman, K. (2021), "Technology-and-logistics induced carbon emissions obstructing the Green Supply Chain Management agenda: Evidence from 101 countries", *International Journal of Logistics Research and Applications*, pp. 1 – 25. DOI: [10.1080/13675567.2021.1985094](https://doi.org/10.1080/13675567.2021.1985094)
112. Waugh, B. and Luke, R. (2017), "Logistics outsourcing by manufacturers in South Africa", *Journal of Transport and Supply Chain Management*, Vol. 5 No. 1, pp. 337 – 360.
113. Ansah, K.R., Obiri-Yeboah, K. and Akipelu, G. (2020), "Improving the freight transport of a developing economy: a case of Boankra inland port", *Journal of Shipping and Trade*, Vol. 5 No. 10. DOI: <https://doi.org/10.1186/s41072-020-00065-z>
114. Oke, A., Maltz, A. and Christiansen, P.E. (2009), "Criteria for Sourcing from developing countries", *Strategic Sourcing: An International Journal*, Vol. 2 No. 2, pp. 145 – 64. DOI: [10.1108/17538290910973367](https://doi.org/10.1108/17538290910973367)
115. Uys, G., Meyer, A. and Niemann, W. (2019), "Taxonomies of trust in supply chain risk management in the South African third party logistics industry", *Acta Commercii*, Vol. 19 No. 1, pp. a792. DOI: <https://doi.org/10.4102/ac.v19i1.792>
116. Ukabuilu, E. and Enemu, O. B. (2010), "Information supply issues in tourist transport in Nigeria: Role for logistics and information technology", *Journal of Agriculture and Social Research*, Vol. 10 No. 1, pp. 104 – 108. DOI: [10.4314/jasr.v10i1.67530](https://doi.org/10.4314/jasr.v10i1.67530)
117. Saidi, S., Mani, V., Mefteh, H., Shahbaz, M. and Akhtar, P. (2020), "Dynamic linkages between transport, logistics, foreign direct investment, and economic growth: Empirical evidence from developing countries", *Transportation Research Part A: Policy & Practice*, Vol. 14, pp. 277 – 293. DOI: <https://doi.org/10.1016/j.tra.2020.09.020>
118. Adeitan, D.A., Aigbavboa, C. and Olufemi, S.B. (2021), "Influence of Information flow on Logistics Management in the Industry 4.0 Era", *International Journal of Supply and Operations Management*, Vol. 8 No.1, pp. 29 – 38. DOI: [10.22034/IJSOM.2021.1.3](https://doi.org/10.22034/IJSOM.2021.1.3)
119. Herold, D.M., Cwiklicki, M., Pilch, K. and Mikl, J. (2021), "The emergence and adoption of digitalization in logistics and supply chain industry: an institutional perspective", *Journal of Enterprise Information Management*, Vol. 34 No. 6, pp. 1917 – 1938. DOI: [10.1108/JEIM-09-2020-0382](https://doi.org/10.1108/JEIM-09-2020-0382)
120. Owuor, E.A. and Noor, I.H. (2019), "Influence of Logistics Outsourcing on Performance of Large Retail Firms in Nairobi City County, Kenya", *American based Research Journal*, Vol. 8 No. 10, pp. 2304.
121. Ageron, B., Bentahar, O. and Gunasekaran, A. (2020), "Digital Supply Chain: Challenges and future directions", *Supply Chain Forum: An International Journal*, Vol. 21 No. 3, pp. 133 – 138. DOI: [10.1080/16258312.2020.1816361](https://doi.org/10.1080/16258312.2020.1816361)
122. Odero, K., Ochara, N.M. and Quenum, J. (2017), "Towards data driven logistics value chains in Namibia", *SSRN Electronic Journal*. DOI: [10.2139/ssrn.2960510](https://doi.org/10.2139/ssrn.2960510)
123. Bhatti, R.S., Kumar, P. and Kumar, D. (2009), "Analytical modeling of third party service provider selection in lead logistics provider environments", *Journal of Modelling in Management*, Vol. 5 No. 3, pp. 275 – 296.

124. Zacharia, Z.G., Sanders, N.R. and Nix, N.W. (2011), "The Emerging Role of the Third-Party Logistics Provider (3PL) as an Orchestrator", *Journal of Business Logistics*, Vol. 31 No. 1, pp 40 – 54.
125. Knemeyer, A.M., Corsi, T.M. and Murphy, P.R. (2003), "Logistics Outsourcing Relationships: Customer Perspectives", *Journal of Business Logistics*, Vol. 24 No. 1, pp. 77–109.

APPENDICES

Appendix I: Table I: Journal Publishers and Articles

Name of Journal Publishers	Number of Articles
Acta Commercii	2
Acta Structilia	1
Acta Technica Jaurinensis	1
Africa Development & Resources Research Institute Journal	1
African Journal of Accounting, Economics, Finance and Banking Research	1
African Journal of Business & Economic Research	1
African Journal of Business Management	1
American Based Research Journal	1
European Business Review	3
European Journal of Logistics, Purchasing & Supply Chain Mgt.	1
Future Transportation	1
International Journal of Academic Research in Business & Social Sciences	1
International Journal of Arts & Entrepreneurship	1
International Journal of Business & Management	2
International Journal of Construction Management	2
International Journal of Emerging Markets	1
International Journal of Engineering Research in Africa	1
International Journal of Information Management	1
International Journal of Logistics Research & Applications	4
International Journal of Management Economics & Business	1
International Journal of Operations & Production Management	1
International Journal of Production Research	1
International Journal of Research in Mgt. Economics & Commerce	1
International Journal of Scientific & Research Publication	2
International Journal of Social Sciences & Information Technology	1
International Journal of Supply & Operations Management	1
International Journal of Supply Chain Management	2
Iranian Journal of Management Studies	1
Journal of Agriculture & Social Research	1
Journal of Business & Economic Analysis	1
Journal of Contemporary Management	4
Journal of Economic and Administrative Sciences	1
Journal of Economics & Sustainable Development	1

Name of Journal Publishers	Number of Articles
Journal of Enterprise Information Management	1
Journal of Global Operations & Strategic Sourcing	1
Journal of Outsourcing & Organizational Information Management	1
Journal of Procurement & Supply Chain Management	1
Journal of Shipping & Trade	2
Journal of Southern African Studies	1
Journal of Transport & Supply Chain Management	7
Management & Organizational Studies	1
Maritime Policy & Management	2
SAGE Open	1
South African Journal of Business Management	2
South African Journal of Transport & Supply Chain Management	2
Southern African Journal of Entrepreneurship & Small Business Mgt.	1
SSRN Electronic Journal	1
Strategic Sourcing: An International Journal	1
Supply Chain Forum: An International Journal	1
Sustainability	2
The African Journal of Information System	1
The International Journal of Logistics Management	2
The Strategic Journal of Business & Change Management	1
Transport Review	1
Transportation Research Part A: Policy & Practice	1
Vaccine	2
Total	82

Appendix II: Table 2: Summary of major outsourced logistics activities

No.	Logistics activities outsourced	Sampled papers
1	Transportation	Pedersen [88]; Pedersen [64]; Baki and Ar [89]; Elzarka [90]; Kilasi <i>et al.</i> [58]; Rodrigues and Potter [59]; Muhindo <i>et al.</i> [68]; Nnamdi & Owusu [56]; Bloem and Bean [50]; Lyndon <i>et al.</i> [91]; El Baz and Laguir [7]; Etokudoh <i>et al.</i> [53]; Karrapan <i>et al.</i> [20]; Niemann <i>et al.</i> [77]; Ammar [92]; Mageto <i>et al.</i> [21] Mageto <i>et al.</i> [51]; El Baz <i>et al.</i> [49]; Tchanche [52]; Ching-Chiao and Yu-Kuo [73]; Omoruyi [55].
2	Warehousing	Pedersen [64]; Sohail <i>et al.</i> [54]; Baki and Ar [89]; Kilasi <i>et al.</i> [58]; Bloem and Bean [50]; Kuada and Hinson [93]; Lydon <i>et al.</i> [91]; Wabwile and Namusonge [94]; El Baz and Laguir [7]; Karrapan <i>et al.</i> [20]; Ammar [92]; Mageto <i>et al.</i> [21]; Mageto <i>et al.</i> [51].
3	Inventory management	Sohail <i>et al.</i> [54]; Nnamdi and Owusu [56]; Ammar [92]; Munanira and Mulyungu [95]; Isah <i>et al.</i> [87]; Omoruyi [55].
4	Distribution management	Kilasi <i>et al.</i> [58]; Rodrigues and Potter [59]; Oko and Ogba [96]; Niemann <i>et al.</i> [77]; El Baz and Laguir [7]; Laseinde <i>et al.</i> [60]; Wright <i>et al.</i> [72]; Kiruja and Ngugi [61].
5	ICT services	Sohail <i>et al.</i> [54]; Cachia and Kruger [97]; Johnston <i>et al.</i> [98]; Opoku-Fofie [99]; Bardenhorst and van Zyl [67]; Kuada and Hinson [93]; Mwai <i>et al.</i> [100]; Nduwimfura and Zheng [101]; Maata and Ombui [102]; Mlimbila and Mbamba [103]; Rejeb [84]; Abbott [104]; Sumah <i>et al.</i> [105]; Barykin <i>et al.</i> [63]; Khaoula <i>et al.</i> [106].
6	Freight forwarding	Pedersen [88]; Pedersen [64]; Baki and Ar [89]; Elzarka [90]; Kilasi <i>et al.</i> [58]; Hanif and Kaluwa [107]; Kalinzi [108]; Etokudoh <i>et al.</i> [53]; Karrapan <i>et al.</i> [20]; Ching-Chiao and Yu-Kuo [73].
7	Order management	Sohail <i>et al.</i> [54]; Baki and Ar [89]; Njambi and Katuse [66]; Rodrigues and Potter [59]; Karrapan <i>et al.</i> [20]; Katana and Gichure [71]; Ammar [92]; Mageto <i>et al.</i> [21]; Weber <i>et al.</i> [109].
8	Reverse logistics	Baki and Ar [89]; Badenhorst [110]; Karrapan <i>et al.</i> [20]; Weber <i>et al.</i> [109]; Li <i>et al.</i> [111].
9	Packaging	Karrapan <i>et al.</i> [20]; Mageto <i>et al.</i> [21].

Appendix III: Table 3: Summary of customers' needs and adaptations of LSPs

No.	Customers' Needs/Expectations	LSP Adaptations	Sampled Papers
1.	Affordable pricing	<ul style="list-style-type: none"> Embracing less costly mode of transportation by shifting to rail transport & multi-modal alternatives. I. T. development in order to offer efficiency in transportation. 	<p>Havenga <i>et al.</i> [19]; Havenga and Simpson [65]; Muhindo <i>et al.</i> [68]; Macharia <i>et al.</i> [69]; Hamif and Kaluwa [107]; El Baz and Laguir [7]; Nyameboame <i>et al.</i> [70]; Mageto <i>et al.</i> [51]; El Baz <i>et al.</i> [49]; Ching-Chiao and Yu-Kuo [73].</p>
2.	Efficient delivery	<ul style="list-style-type: none"> Being innovative – reinvent last mile distribution model by incorporating technology-driven delivery solutions. Develop logistics information systems such as VMI, JIT for storage. 4PLs evolving from 3PLs to provide complex logistics services. Increasing capacities to become efficient. Joint ventures and collaborations to increase capacity. 	<p>Katana and Gichure [71]; Laseinde and Mpofo [60]; Waugh and Luke [112]; Wright <i>et al.</i> [72]; Munanira and Mulyungu [95]; Ching-Chiao and Yu-Kuo [73]; Kiruja and Ngugi [61]; Ansah <i>et al.</i> [113]; Tukamuhabwa <i>et al.</i> [75].</p>
3.	Demand for environmental sustainability	<ul style="list-style-type: none"> Embracing green supply chain initiatives by getting actively involved in the environmental actions of other LSPs & clients in the supply chain. Training personnel to achieve flexibility, increase productivity, & quality service levels. Focusing on developing technology to address environmental issues. Using information and technology systems to support activities of reverse logistics. Adopting green technologies to boost reverse logistics operations. Leveraging ICT to use renewable fuels to reduce greenhouse gas emissions. 	<p>Badenhorst [110]; El Baz and Laguir [7]; Etokudoh <i>et al.</i> [53]; Karapan <i>et al.</i> [20]; Niemann <i>et al.</i> [77]; Weber and Badenhorst-Weiss, [109]; Carrim <i>et al.</i> [78]; Li <i>et al.</i> [111].</p>
4.	High service quality levels	<ul style="list-style-type: none"> Providing innovative leadership within the company. Training personnel through collaborating with other LPS firms both nationally and beyond. Integrating organizational functions to realize seamless communication and feedback to develop capabilities for greater service performance. Building a robust supply chain risk management mechanism. 	<p>Sohail <i>et al.</i> [54]; Oke <i>et al.</i> [114]; Savage <i>et al.</i> [18]; Macharia <i>et al.</i> [69]; Obeng <i>et al.</i> [80]; Kalinzi [108]; Dibetso <i>et al.</i> [79]; Nyameboame <i>et al.</i> [70]; Kiruja and Ngugi [61]; Uys <i>et al.</i> [115]; Ansah <i>et al.</i> [113].</p>
5.	Technological improvement	<ul style="list-style-type: none"> Adopting ICT to reduce costs; improve responsiveness; improve customer's needs. Adopting logistics 4.0 to digitalize logistics operations and increase its strategic role. Using information systems to reduce shipping and trucking cost; timely of goods and services; and enhance organizational logistics capability. Using electric & A.I. based vehicles and building tracks that automatically charge vehicles. 	<p>Ukabuili and Enemuo [116]; Mlimbila and Mbamba [103]; Rejeb [84]; Bag <i>et al.</i> [81]; Saidi <i>et al.</i> [117]; Adeitan <i>et al.</i> [118]; Barykin <i>et al.</i> [63]; Farquharson <i>et al.</i> [85]; Herold <i>et al.</i> [119]; Li <i>et al.</i> [111].</p>

Appendix IV: Table 4: Summary of technology adopted by LSPs

No.	Technologies adopted by LSPs	Sampled Papers
1.	Internet of Things (IoT)	Macharia <i>et al.</i> [69]; Kshetri [83]; Rejeb [84]; Owuor and Noor [120]; Ageron <i>et al.</i> [121]; Bag <i>et al.</i> [81]; Adeitan <i>et al.</i> [118]; Farquharson <i>et al.</i> [85]; Tadesse <i>et al.</i> [82]; Vernier <i>et al.</i> [62].
2.	Blockchain Technology	Kshetri [83]; Rejeb [84]; Ageron <i>et al.</i> [121]; Bag <i>et al.</i> [81]; Barykin <i>et al.</i> [63]; Khaoula <i>et al.</i> [106]; Li <i>et al.</i> [111]; Tadesse <i>et al.</i> [82]; Vernier <i>et al.</i> [62].
3.	Cloud Computing	Ageron <i>et al.</i> [121]; Omoruyi [55]; Adeitan <i>et al.</i> [118]; Bag <i>et al.</i> [81]; Khaoula <i>et al.</i> [106]. Tadesse <i>et al.</i> [82]; Vernier <i>et al.</i> [62].
4.	Artificial Intelligence	Laseinde and Mpofo [60]; Bag <i>et al.</i> [81]; Saidi <i>et al.</i> [117]; Adeitan <i>et al.</i> [118]; Farquharson <i>et al.</i> [85]; Khaoula <i>et al.</i> [106]; Tadesse <i>et al.</i> [82]; Vernier <i>et al.</i> [62].
5.	Big Data Analytics	Odero <i>et al.</i> [122]; Ageron <i>et al.</i> [121]; Bag <i>et al.</i> [81]; Saidi <i>et al.</i> [117]; Adeitan <i>et al.</i> [118]; Herold <i>et al.</i> [119]; Tadesse <i>et al.</i> [82]; Vernier <i>et al.</i> [62].
6.	Enterprise Resource Planning	Johnston <i>et al.</i> [98]; Ukabuilu and Enemu [116]; Opuku-Fofie [99]; Bardenhorst and van Zyl [67]; Maata and Ombui [102]; Mlimbila & Mbamba [103]; Owuor & Noor [120]; Isah <i>et al.</i> [87]; Omoruyi [55]; Barykin <i>et al.</i> [63]; Sumah <i>et al.</i> [105]; Vernier <i>et al.</i> [62].

