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African Contribution to Global Value Chains and Trade Competitiveness: Evidence from Selected Anglophone Countries

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Abstract

The global economy has placed considerable emphasis on global value chains in recent decades. These practices entail the dispersion of production processes among various nations, which facilitates specialization and increases in efficiency. Continents and nations that intend to exploit on their comparative advantages have begun to participate in numerous segments of global value chains, which have become a defining characteristic of international trade. In lieu of this background, this study examined African contribution to global value chains and trade competitiveness in selected Anglophone countries between 2007 and 2025. The objectives of the study are to determine the effect of backward global value chain participation (GVC), logistics performance (LP), institutional quality (ISQ), energy reliability (ER) and firm capabilities (FC) on trade competitiveness (TC). The study used the panel cointegration and panel least square (Fixed Effect) as the estimation techniques. The findings based on the panel least square fixed effect results showed that, backward global value chain participation had positive effect on trade competitiveness. Also, logistics performance is positively related with trade competitiveness. The estimated result showed that, institution quality is negatively related with trade competitiveness in the selected Anglophone African countries. The estimated result showed that, energy reliability and firm capability are positively related with trade competitiveness in the selected Anglophone African countries. Thus, it was concluded that, to a large extent, global value chain positively contributed to increase in trade competitiveness in Anglophone African nations between 2007 and 2025. Based on the findings it was recommended amongst others that it is imperative that the government and policy makers establish a definitive national policy regarding the development of value chains, which should be seamlessly incorporated with strategies pertaining to national trade, industrial progress, and trade competitiveness.

Keywords: Energy Reliability, Firm Capability, Fixed Effect, Institution Quality, Value Chain

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1. INTRODUCTION

The global economy has placed considerable emphasis on global value chains in recent decades. These practices entail the dispersion of production processes among various nations, which facilitates specialization and increases in efficiency. Continents and nations that intend to exploit on their comparative advantages have begun to participate in numerous segments of global value chains, which have become a defining characteristic of international trade. However, evidence from Africa suggests that increased participation in global trade has not translated into commensurate improvements in trade competitiveness or structural transformation. Instead, many African economies remain concentrated in low-value segments of global production, characterized by primary commodity exports and limited domestic value addition (UNCTAD, 2023). A central challenge is that African countries' integration into GVCs has been largely dominated by forward participation, where raw or minimally processed inputs are supplied for use in other countries' exports. While such participation links African economies to global markets, it often yields limited technological learning, weak domestic linkages, and low value capture. As a result, export growth has not been accompanied by sustained upgrading, diversification, or improvements in export sophistication, key dimensions of trade competitiveness in the contemporary global economy (Gereffi, Humphrey, & Sturgeon, 2005; Baldwin, 2016).

Despite policy reforms aimed at trade liberalization and export promotion, many Anglophones African countries continue to face persistent structural constraints that undermine their ability to compete effectively in global markets. Inefficient logistics systems increase trade costs and reduce delivery reliability. Weak institutional frameworks generate regulatory uncertainty and discourage investment. Unreliable energy supply constrains industrial production and raises operating costs, particularly in manufacturing and processing activities. In addition, limited firm-level capabilities, reflected in low technological adoption, weak innovation, and skills shortages, restrict the capacity of domestic firms to meet international standards and move into higher-value segments of production (World Bank, 2020; UNECA, 2021). At the same time, the role of backward GVC participation, measured by the use of imported intermediate inputs in exports, remains insufficiently understood in the African context. While backward participation has been shown to facilitate learning, technology transfer, and upgrading in other regions, its effect on trade competitiveness in Africa is ambiguous. In some cases, reliance on imported inputs may support higher-quality exports, while in others it may reinforce import dependence without meaningful domestic capability development. This ambiguity points to the need for empirical investigation that situates GVC participation alongside domestic structural conditions rather than treating it as an isolated driver of competitiveness.

Emerging evidence indicates that the ability of countries to translate GVC participation into trade competitiveness depends critically on domestic structural conditions. Efficient logistics systems reduce trade costs and enhance reliability in global markets. Strong institutions improve regulatory predictability, contract enforcement, and investor confidence. Reliable energy supply underpins industrial productivity, particularly in manufacturing and processing activities. Firm-level capabilities, including technological adoption, innovation, and skills, determine whether domestic firms can meet international standards and upgrade within value chains (UNCTAD, 2023). In addition, the nature of GVC participation itself matters, backward participation, reflected in the use of imported intermediate inputs in exports, may facilitate access to superior technologies and intermediate goods that support learning and upgrading. Despite growing recognition of these issues, there remains limited empirical consensus on how GVC participation and domestic structural factors jointly shape trade competitiveness in African economies. Much of the existing literature either examines GVC participation in isolation or focuses on single-country or sector-specific analyses, offering limited insight into cross-country differences within Africa.

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Moreover, existing empirical studies on GVCs and trade competitiveness in Africa are often fragmented. Many focus on single countries, specific sectors, or isolated determinants, providing limited insight into how multiple structural factors interact with GVC participation to shape trade outcomes. Comparative studies across African countries, particularly those sharing similar institutional and linguistic characteristics, remain relatively scarce. Consequently, policymakers lack robust evidence on why some Anglophone African countries have achieved relatively higher levels of competitiveness and diversification, while others with comparable endowments remain locked into low-value activities. Against this backdrop, the core problem addressed in this study is the absence of clear empirical evidence on how backward GVC participation, together with key structural determinants such as logistics performance, institutional quality, energy reliability, and firm capabilities, influences trade competitiveness in Anglophone African countries.

Against this backdrop, this study investigates the determinants of African contribution to global value chains and trade competitiveness, focusing on selected Anglophone African countries. The remaining parts of this paper examined, a review of literature, the methodology, the results and discussion as well as the conclusion and recommendations.

2. LITERATURE REVIEW

2.1 Governance Implications for Anglophone African Economies

The governance structures and evolving dynamics of global value chains have profound implications for industrial development, domestic value addition, and trade competitiveness within Anglophone African economies (Gereffi, Humphrey, & Sturgeon, 2005). While participation in GVCs has expanded across the continent over the past three decades, integration remains highly uneven in both depth and quality (UNCTAD, 2023). Most African economies continue to occupy relatively low-value positions within global production systems characterized by raw material extraction, basic commodity exports, labour-intensive assembly, and weak technological capability (Kaplinsky & Morris, 2018). Consequently, the developmental outcomes associated with GVC participation vary considerably depending on governance structures, institutional quality, industrial policy orientation, and productive domestic capacity (Rodrik, 2018).

A central challenge confronting Anglophone African economy is that participation within GVCs has often occurred under governance arrangements that reinforce dependency rather than facilitate industrial upgrading UNCTAD, 2023). In many sectors, multinational corporations headquartered in advanced economies retain control over high-value functions such as research and development, innovation, branding, logistics coordination, finance, marketing, software systems, and intellectual property management (Ponte & Sturgeon, 2014). African firms, by contrast, frequently participate as suppliers of raw materials, low-value intermediate goods, or labour-intensive production services characterized by limited opportunities for technological learning and value capture (Gereffi & Fernandez-Stark, 2016).

This asymmetry reflects broader structural inequalities within the global economy. Dependency theorists argue that peripheral economies remain integrated into international capitalism in subordinate ways that limit autonomous industrial development and reinforce technological dependence. Within GVCs, these inequalities are reproduced through governance systems that concentrate knowledge, innovation, finance, and decision-making power within multinational lead firms while suppliers in developing economies remain confined to lower-value activities. Consequently, export growth may occur without meaningful industrial transformation, productivity upgrading, or diversification (Rodrik, 2018).

Nigeria provides one of the clearest examples of this contradiction. As Africa's largest economy and one of

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the world's major crude oil exporters, Nigeria occupies a strategically important position within global energy value chains (UNECA, 2021). However, the country remains heavily concentrated in the export of crude petroleum with relatively limited domestic refining, petrochemical production, or advanced manufacturing integration. Although oil exports generate substantial foreign exchange earnings, Nigeria captures only a small proportion of the total value generated within petroleum-related global production systems because high-value activities such as refining technologies, engineering services, shipping insurance, commodity trading, petrochemical manufacturing, and energy finance remain concentrated outside the country (UNCTAD, 2023).

The structure of Nigeria's integration into GVCs has therefore contributed to persistent economic vulnerabilities including external dependence, exchange rate instability, weak industrial diversification, and exposure to commodity price volatility (World Bank, 2020). Furthermore, inadequate transport infrastructure, unreliable electricity supply, poor logistics systems, port congestion, regulatory uncertainty, and limited industrial financing constrain movement into higher-value manufacturing and technology-intensive activities (OECD, 2021). These structural weaknesses reduce Nigeria's competitiveness within both regional and global production systems despite its large domestic market and resource base.

Ghana exhibits similar structural characteristics within cocoa-related value chains. Although Ghana remains one of the world's largest cocoa producers, most value-added activities associated with global chocolate production occur outside Africa (Kaplinsky & Morris, 2018). Processing, branding, packaging, retailing, and marketing activities are concentrated primarily within Europe and North America, allowing multinational firms to capture the largest shares of value within the chain. Ghana therefore exports large quantities of raw or semi-processed cocoa while capturing relatively limited value from the global chocolate industry (UNCTAD, 2023).

This pattern reflects a broader challenge confronting many African commodity exporters: integration into global production systems through forward linkages dominated by raw material exports rather than backward linkages associated with industrial learning and manufacturing capability development (Koopman, Wang, & Wei, 2014). Forward participation frequently generates limited technological spillovers and weak domestic production linkages because key stages of innovation, design, and advanced processing occur elsewhere within the value chain.

South Africa represents a relatively different trajectory within African GVC participation. Due to its comparatively advanced industrial infrastructure, diversified manufacturing base, stronger financial systems, and more developed institutional capacity, South Africa participates more extensively within automotive, machinery, mining services, telecommunications, financial services, and business-support value chains (Kaplinsky & Morris, 2018). The country has achieved deeper integration into global automotive production systems linked to European and Asian manufacturers through supplier development programs, export incentives, and industrial policy coordination.

Nevertheless, South Africa continues to face important structural constraints. Persistent energy instability, infrastructure bottlenecks, labour market rigidities, and inequality-related challenges have weakened industrial competitiveness in recent years (World Bank, 2020). Furthermore, the country faces increasing pressures associated with sustainability governance, decarbonization requirements, and the global transition toward green industrial systems (Ponte, 2019). South Africa's long-term competitiveness will therefore depend significantly on its ability to modernize infrastructure systems, strengthen renewable energy capacity, and upgrade technological capabilities within advanced manufacturing sectors.

Mauritius demonstrates how small economies can strategically reposition themselves within global

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production systems through institutional quality, economic diversification, and services-oriented upgrading (OECD, 2021). Initially integrated into GVCs through low-cost textile manufacturing, Mauritius gradually diversified into tourism, ICT-enabled business services, offshore finance, logistics coordination, and high-value service industries (Kaplinsky & Morris, 2018). Strong governance systems, political stability, efficient logistics infrastructure, and regulatory effectiveness enabled Mauritius to transition toward higher-value segments characterized by greater domestic value capture and improved competitiveness.

Similarly, Rwanda has emerged as one of Africa's strongest reform-oriented economies emphasizing institutional modernization, digital governance, investment facilitation, logistics efficiency, and ICT-enabled development (World Bank, 2020). Although Rwanda possesses limited natural resources and a relatively small domestic market, the country increasingly leverages governance quality and digital transformation to strengthen participation within tourism, conference services, fintech systems, and technology-enabled value chains (OECD, 2021). Rwanda's experience demonstrates that institutional effectiveness and governance reforms can partially compensate for limitations associated with market size or resource endowments.

Kenya has also achieved important progress within horticulture, tourism, fintech services, and digital commerce value chains. The country's horticulture sector successfully integrated into European supermarket chains partly through improvements in quality assurance systems, logistics infrastructure, cold-chain management, and export certification mechanisms (World Bank, 2020). Nairobi has additionally emerged as one of Africa's leading technology hubs, supported by innovations in mobile finance, digital entrepreneurship, and ICT-enabled services (UNCTAD, 2023).

Botswana provides another important example of selective upgrading within resource-based value chains. Historically dependent on diamond exports, Botswana pursued strategies aimed at increasing domestic beneficiation, tourism development, and financial service diversification (UNECA, 2021). Although challenges remain, Botswana's relatively strong governance systems and macroeconomic management have supported more stable integration into international production systems compared to several other resource-dependent economies.

Despite these country-specific variations, several structural constraints continue to limit deeper upgrading opportunities across Anglophone Africa. Infrastructure deficits remain among the most significant barriers to competitiveness (World Bank, 2020). Poor transport connectivity, inadequate rail systems, inefficient ports, weak warehousing infrastructure, and unreliable electricity supply increase production and transaction costs across multiple sectors. High logistics costs reduce export competitiveness and limit the ability of firms to integrate efficiently into time-sensitive production systems (OECD, 2021).

Energy reliability represents another critical challenge. Contemporary GVCs increasingly depend on digitally coordinated production systems requiring stable electricity, telecommunications infrastructure, and advanced technological systems (World Economic Forum, 2022). Frequent power outages, high energy costs, and inadequate generation capacity undermine industrial productivity and discourage investment within manufacturing and technology-intensive sectors. Nigeria's electricity instability, for example, significantly increases operational costs for firms and reduces competitiveness within global production systems (UNECA, 2021).

Institutional quality and governance effectiveness also play central roles in shaping GVC outcomes. Efficient customs systems, regulatory consistency, contract enforcement mechanisms, investment protection frameworks, and trade facilitation systems are essential for supporting participation within sophisticated production networks.

Human capital and technological capability development represent equally important determinants of

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upgrading potential. Countries seeking movement into higher-value segments of GVCs require skilled labour, technical education systems, research institutions, engineering capabilities, and innovation ecosystems capable of supporting industrial learning and technological adaptation. Weak educational systems and limited industrial research capacity continue to constrain upgrading opportunities across many African economies (Rodrik, 2018).

Digital transformation further intensifies these capability requirements. Contemporary production systems increasingly depend on broadband connectivity, cloud infrastructure, cybersecurity systems, digital literacy, automation technologies, and data governance frameworks. Countries unable to develop these capabilities risk marginalization within increasingly digitized and technology-intensive global production systems (OECD, 2021).

Sustainability governance and ESG requirements also create new governance pressures within African economies. International buyers increasingly demand compliance with environmental standards, carbon accounting systems, labour regulations, traceability requirements, and responsible sourcing practices (European Commission, 2023). While these standards may facilitate upgrading and premium market access, they also impose significant compliance costs on firms operating within weak institutional environments (Ponte, 2019).

Ultimately, the governance implications of GVC participation for Anglophone African economies depend fundamentally on the interaction between global production structures and domestic institutional capacity (Gereffi, Humphrey, & Sturgeon, 2005). Participation alone does not guarantee industrial transformation or trade competitiveness. Rather, developmental outcomes depend on whether countries can strategically leverage participation to strengthen domestic capabilities, deepen industrial linkages, improve infrastructure systems, and move into higher-value functions within global production networks (Rodrik, 2018).

2.2 Comparative GVC Integration in Anglophone African Economies

The varying degrees to which these nations depend on fundamental commodities are a major cause of diversity among them. Multinational corporations have complete control over the extraction, price, certification, and transportation of natural resources in countries like Botswana, Ghana, and Nigeria (Gereffi et al., 2005). Examples of value chains with high levels of financial, organisational, and technical control include the oil industry in Nigeria, the gold and cocoa industries in Ghana, and the diamond industry in Botswana. Local firms find it more challenging to participate in midstream or downstream processes, such grading, branding, or aggregation, due to this concentration (Ponte, 2019). On the other hand, South Africa and Mauritius may participate in many governance systems at once due to their varied export baskets and strong domestic value addition in agriculture, services, and manufacturing.

The function of logistical infrastructure is an additional critical component of diversity. In spite of recent inefficiencies in Durban and Cape Town, South Africa remains the leader in logistics, cold-chain capabilities, and container-handling capacity (World Bank, 2020). The small island nation of Mauritius makes up for its lack of land mass by easing the export of fast-cycle clothing and digital services via its highly efficient ports and simplified customs procedures. With Mombasa Port serving as its foundation and a vast cold chain network for horticulture, Kenya's logistics system finds a balance: it excels at handling perishable commodities, but gets caught up in traffic quickly.

Third, the availability and quality of a nation's energy infrastructure determines whether it can accommodate energy-intensive or time-sensitive industrial centres. The widespread load-shedding in South Africa has caused significant downtime and cost overruns in the country's industrial infrastructure, which

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was constructed on ample coal-fired electricity (World Bank, 2020). All parts of the cold-chain and production processes are affected by the impracticality of modular or relational governance due to Nigeria's comparatively low effective generating capacity of 4-5.5. Even with advancements in renewable energy and grid expansion, Kenya and Rwanda's energy infrastructures still can't handle heavy industry (AfDB, 2022). Because of its reliance on imported fuel, the island country of Mauritius has high energy prices, which negatively affect the finishing and processing sectors of the textile industry. Consequently, energy systems play a mediating role between the magnitude and scope of a nation's ability to fulfil its GVC commitments.

As a fourth factor, the competency and professionalism of governing bodies affect GVC integration. When it comes to financial global value chains, specialist agriculture, and high-value services, both Rwanda and Mauritius have achieved outstanding results thanks to development plans that are guided by institutions. The Government of Rwanda in 2022 attribute this success to well-run government agencies, streamlined certification procedures, and transparent regulatory frameworks. Modern regulatory structures help South Africa, yet the country's various industries are subject to varying degrees of oversight. According to the World Bank (2023), there are still issues with certification and enforcement in the agricultural and industrial sectors, even if Kenya's regulatory agility is promoting involvement in fintech and BPO. Discrepancies in institutional performance are a result of disjointed governance in Ghana and Nigeria caused by a lack of coordination among logistical authorities, standards agencies, and customs (UNCTAD, 2023).

The fifth dimension of variation displays the ecosystems of domestic suppliers and the competencies of the companies. South Africa is a desirable site for companies to engage in relational and modular GVCs because to its extensive supplier networks in the areas of business services, agri-processing, equipment, and automotive components. According to World Bank Group (2023), digital services, the financial structure, and apparel design in Mauritius are all very complex. Thanks to its innovative private sector, Kenya is now a global leader in horticulture, business process outsourcing (BPO), and financial technology (fintech). Fashion, petrochemical, fintech, and car assembly in Nigeria are all seeing development in the private sector. However, these sectors are not able to fulfil their maximum potential due to the country's insufficient supplier ecosystems. Because of their weaker industrial bases, Rwanda and Botswana have inherent constraints when it comes to supplier depth.

Focusing on export markets and being reliant on trade preferences is a sixth difference. The agricultural and clothing policies of Kenya and Mauritius are affected by the preferential access regulations of the African Growth and Opportunity Act (AGOA) and the European Union Economic Partnership Agreement (EPA). More bilateral relations and export diversification would be good for South Africa. European Union (EU) rules, pesticide limits, and traceability requirements provide upgrade challenges for Ghana's horticulture and cocoa exports, despite the EU's importance as a market (European Commission, 2023). Countries like Botswana and Nigeria, which depend heavily on commodities, are less influenced by consumer preferences but still vulnerable to fluctuations in global pricing, which makes it difficult to engage in long-term infrastructure projects.

Each country's upgrading paths, and their quality, make up a seventh axis. According to UNCTAD (2023), South Africa and Mauritius have achieved the greatest strides in functional upgrading in the domains of design, branding, quality management, financial services, and regional coordination. By using state-of-the-art cold-chain technology and quality standards, Kenya has substantially improved its horticulture operations. Rwanda is putting its energy into strengthening its certification, traceability, and speciality branding systems as well as the connections within them. Botswana and Ghana are two countries where policy-driven upgrading initiatives, such as cocoa grinding and diamond beneficiation, have had

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varying degrees of success. Infrastructure investment, bringing petrochemical production in-country, and expanding light manufacturing are all necessary for Nigeria to achieve its economic growth goals.

The ninth distinction is the degree to which different sectors are concentrated. Global production network (GPN) theory is supported by agglomeration economies in South African chemical, automotive, agro-processing, and mining equipment clusters (Coe & Yeung, 2015). The horticulture cluster in Kenya, which includes growers, packhouses, transportation providers, and certification agencies, displays great vertical coordination, in contrast to the powerful garment and financial clusters in Mauritius.

The comparative analysis shows that the seven Anglophone African countries occupy structurally distinct positions within global production networks, shaped by differences in factor endowments, logistics ecosystems, energy systems, institutional capacities, firm capabilities and trade alignments. Their upgrading paths cannot follow a single template: rather, each requires a tailored combination of infrastructural reform, regulatory strengthening, technological upgrading and strategic engagement with lead firms.

2.3 Empirical Evidence on Global Value Chains (GVCs) and Trade Competitiveness

The empirical literature on global value chains (GVCs) and trade competitiveness has grown substantially over the past two decades, reflecting the increasing fragmentation of production and the central role of cross-border production networks in shaping global trade dynamics. Early empirical contributions primarily focused on the measurement of GVC participation and its implications for productivity and export performance, while more recent studies have expanded the scope to include issues of upgrading, value capture, and structural transformation (Gereffi et al., 2005; Baldwin, 2016; World Bank, 2020).

A dominant finding within this body of literature is that participation in GVCs can enhance trade competitiveness through multiple transmission channels, including access to high-quality intermediate inputs, exposure to international best practices, technology diffusion, and learning-by-doing effects. Empirical evidence from developed and emerging economies generally supports the view that deeper integration into GVCs is associated with higher productivity, export diversification, and improved firm performance (Timmer et al., 2015; Taglioni & Winkler, 2016).

However, these positive outcomes are neither automatic nor uniformly distributed across countries. A growing strand of the literature highlights that the benefits of GVC participation are highly contingent on domestic structural conditions, including infrastructure quality, institutional effectiveness, human capital development, and firm-level capabilities (UNCTAD, 2023). In many developing economies, particularly in Africa, participation in GVCs has been characterized by limited value addition, weak upgrading, and continued specialization in low-value segments such as raw material extraction and basic assembly. This has led to what is often described as “uneven integration,” where countries are integrated into global production networks but capture only a small share of the total value created (UNCTAD, 2023; World Bank, 2020).

In summary, existing empirical studies in African context presents unique structural challenges that differentiate it from other regions. Issues such as weak logistics systems, high trade costs, unreliable energy supply, institutional inefficiencies, and limited firm capabilities significantly constrain the ability of African countries to integrate effectively into higher value-added segments of GVCs (World Bank, 2020).

3. METHODOLOGY

The study relies entirely on secondary data obtained from internationally recognized databases. Such as World Bank, WTO, and UNCTAD. The unbalanced panel data were extracted for the

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Anglophone Africa nations between 2007 and 2025. Panel data is appropriate for this research because is provide consistent and comparable indicators across countries and over time. Out of the nineteen Anglophone African countries, this study selects seven; Nigeria, Ghana, Kenya, South Africa, Botswana, Rwanda, and Mauritius, representing a diverse subset of Anglophone African economies in terms of size, structure, and level of integration into global value chains. The selection is not random but purposive, designed to capture structural diversity across regions, economic size, and levels of integration into global value chains. The selected countries include the largest economies in Anglophone Africa, such as Nigeria and South Africa, as well as middle-income and small economies like Kenya, Ghana, Botswana, Rwanda, and Mauritius.

Method of Analysis

This study determines the stationary of the variables used in the model with panel unit root test. Also, the Hausman test enables this study determine the appropriate model to be used, i.e the fixed effect model. This Test is the main test in this study, and this approach is robust in handling the complexities and heterogeneities inherent in panel data by combining cross-sectional and time-series dimensions.

Model Specification

$$TC_{it}=\beta+\beta_1 GVC_{it}+\beta_2 LP_{it}+\beta_3 ISQ_{it}+\beta_4 ER_{it}+\beta_5 FC_{it}+\mu_i+\epsilon_{it}$$

Where:

i = country,
t = time period,
β_0 = intercept,
$\beta_1 - \beta_5$= Slope coefficients,
ϵ_{it}= error term,
TC = Trade Competitiveness for country,
GVC= Backward Global Value Chain Participation
LP= Logistics Performance,
ISQ = Institutional Quality,
FC = Firm Capabilities,
ER_{it}= Energy Reliability

4. RESULTS AND DISCUSSION

This section was segmented into; Pre-estimation tests such as descriptive statistics, and panel

unit root test via ADF. Also, the estimation techniques such as Panel Cointegration Test (Kao), model selection (Hausman Test) and fixed effects model were considered.

Table 1: Analysis of Descriptive Statistic Results for the Estimated Model

	TC	GVC	LP	ISQ	ER	FC
Mean	116.6248	0.321288	2.737879	62.14436	65.70323	9.753939
Median	107.2000	0.190000	2.630000	60.20000	67.40000	9.285000
Maximum	378.0000	2.020000	3.800000	77.00000	100.1000	18.44000
Minimum	9.600000	-0.850000	1.700000	24.40000	5.300000	5.230000
Std. Dev.	54.96530	0.475279	0.441405	7.865011	24.82888	2.590162
Skewness	2.108669	1.159079	0.433696	-0.372319	-0.528033	0.457815
Kurtosis	9.595136	5.230223	3.033822	5.491756	2.573344	2.829129
Jarque-Bera	339.6031	57.34380	4.144324	37.48014	7.189268	4.771669
Probability	0.000000	0.000000	0.125913	0.000000	0.027471	0.092012
Sum	15511.10	42.73126	361.4000	8265.200	8738.530	1287.520

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Sum Sq. Dev.	398796.3	29.81745	25.52381	8165.308	81374.48	878.8712
Observations	133	133	132	133	133	132

Source: *Researcher's Computations from E-Views 12*

Table 1 provided an insight into the statistical property of selected Anglophone countries in Africa between 2007 and 2025. The data showed that, Trade Competitiveness (TC) has an approximate mean of 116.62, indicating that, trade is very important to the economies of the selected Anglophone countries in Africa. The approximate skewness of 2.11 suggests a right skew indicating that, some countries have very high trade competitiveness contributions to the economy of African. Backward Global Value Chain Participation (GVC), showed an approximate mean of 0.32% and standard deviation of 0.48, reflecting the importance of trade in these economies. The approximate skewness of 1.16 implies that, while most countries cluster around the mean, a few have significantly higher GVC.

Table 2: Analysis of Panel ADF Fisher Chi-square Unit Root Test for the Estimated Model

Variable	Integrated at I(0)	Integrated at I(1)	Conclusion
Log(TC)	24.2056 (0.0433)	-60.5803 (0.0000)	***I*(1)**
Log(GVC)	21.7417 (0.0841)	96.7248 (0.0000)	***I*(1)**
Log(LP)	40.6161 (0.0002)	-6.93528 (0.0000)	***I*(0)**
Log(ISQ)	21.2846 (0.0946)	46.6692 (0.0000)	***I*(1)**
Log(ER)	16.5223 (0.2825)	79.2821 (0.0000)	***I*(1)**
Log(FC)	12.0221 (0.6045)	39.6164 (0.0003)	***I*(1)**

Source: *Researcher's Computations from E-Views 12*

The Augmented Dickey Fuller (ADF) Fisher Chi-square Unit root test is used to appropriately check whether the data are I(0) integrated at levels or I(1) integrated at first difference. Table 2, the study observed that, only logistics performance (LP) is stationary at level I(0), while the remaining variables become stationary after first differencing, implying that they are integrated of order one, I(1). After adjustment, the result showed that, Trade Competitiveness (TC), Backward Global Value Chain Participation (GVC), Institutional Quality (ISQ), Energy Reliability (ER) and Firm Capabilities (FC) are integrated at first difference.

Table 3: Kao Residual Co-Integration Test for the Estimated Model

Series: LOG(TC) GVC LP ISQ LOG(ER) LOG(FC)				
Null Hypothesis: No cointegration. Included observations: 133				
Trend assumption: No deterministic trend				
Automatic lag length selection based on SIC with a max lag of 3				
			t-Statistic	Prob.
ADF			-3.573741	0.0002
Residual variance			0.111193	
HAC variance			0.052104	

Source: *Researcher's Computations from E-Views 12*

Note: The Kao (1999) statistics are one-sided tests with a critical value of 0.05, ** indicates rejection of the null hypothesis of no-co-integration at 5%, levels of significance.

Table 3 showed the result of the Kao (1999) cointegration test with the use of ADF-statistics criterion carried out for constant trend. The summary of the results is presented based on the test-statistics criterion and the respective p-value was presented in Table 3. The null hypothesis test of no co-integration was investigated, and the result outcomes confirm that, the null hypothesis was rejected because the p-value of

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the ADF test statistic criterion of 0.0002 was found to be less than 5% level of significance. Hence, the null hypotheses which states that, there is no co-integration between the determinants of trade competitiveness and the role of global value chain participation (proxies by Logistics Performance, Backward Global Value Chain Participation, Institutional Quality, Energy Reliability and Firm Capabilities) and trade competitiveness in selected Anglophone countries (proxied by export sophistication or value index) in selected Anglophone African nation was rejected. However, since the test statistics is in favour of cointegration, it is therefore concluded that, there is a long run cointegration among the variables in the in selected Anglophone African nation. The implication of the result is that there is an equilibrium relationship between the determinants of trade competitiveness and the role of global value chain participation in Anglophone countries.

Table 4: Hausman Test for the Estimated Model

Correlated Random Effects - Hausman Test				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		19.442551	5	0.0016
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
Log(GVC)	0.013836	-0.012052	0.000100	0.0098
Log(LP)	0.674594	0.529853	0.006948	0.0825
Log(ISQ)	-0.001381	-0.007023	0.000021	0.2179
LOG(ER)	0.290234	0.213274	0.002497	0.1235
LOG(FC)	0.416847	0.043857	0.013690	0.0014

Source: *Researcher's Computations from E-Views 12*

The Hausman specification test is employed to determine the appropriate model between the fixed effects and random effects estimators. The decision rule is based on the probability value of the Chi-square statistic at the 5 percent level of significance. Specifically, if the p-value exceeds 0.05, the null hypothesis is not rejected, and the random effects model is considered appropriate. Conversely, if the p-value is less than 0.05, the null hypothesis is rejected in favour of the fixed effects model.

Based on the results obtained, the Chi-square probability value of 0.0016 is less than the 5 percent level of significance. Therefore, the null hypothesis is rejected, indicating that the random effects estimator is inconsistent. Consequently, the fixed effects model is adopted for the analysis, as it provides consistent estimates by controlling for unobserved country-specific heterogeneity.

Table 5: **Fixed Effect Panel Least Squares Result for the Estimated Model**

Dependent Variable: LOG(TC)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.784180	0.782917	1.001613	0.3186
Log(GVC)	0.013836	0.076382	0.181139	0.8566
Log(LP)	0.674594	0.146259	4.612323	0.0000

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Log(ISQ)	-0.001381	0.007902	-0.174753	0.8616
Log(ER)	0.290234	0.101704	2.853708	0.0051
Log(FC)	0.416847	0.215170	1.937295	0.0451
R-squared	0.678691	Prob(F-statistic)		0.000000
Adjusted R-squared	0.615881	Durbin-Watson stat		1.482845

Source: *Researcher's Computations from E-Views 12*

The fixed effect results on Table 5 showed that, backward global value chain participation (GVC) is positively related with trade competitiveness in the selected Anglophone African countries between 2007 and 2025. Therefore, a percentage change in backward global value chain participation will cause trade competitiveness to increase by 1.3836 percent. The theoretical implication of the results is that, the independent variable (GVC) is consistent with theoretical expectations. Despite the fact that, backward global value chain participation had positive relationship with trade competitiveness, there is no significant relationship between backward global value chain participant (GVC) and trade competitiveness since the p-value of 0.8566 is greater than the 5percent level of significance. Thus, the study accepts the null hypothesis of no significant relationship between backward global value chain participant and trade competitiveness.

Moreover, the estimated result showed that, logistics performance (LP) is positively related with trade competitiveness in the selected Anglophone African countries between 2007 and 2025. Therefore, a percentage change in logistics performance will cause trade competitiveness to increase by 67.4594 percent. The theoretical implication of the results is that, the independent variable (LP) is consistent with theoretical expectations. The positive relationship between logistic performance and trade competitiveness also showed that there is a significant relationship between logistic performance and trade competitiveness since the p-value of 0.0000 is less than the 5percent level of significance. Thus, the study rejects the null hypothesis of no significant relationship between logistic performance and trade competitiveness.

Meanwhile, the estimated result showed that, institution quality (ISQ) is negatively related with trade competitiveness in the selected Anglophone African countries between 2007 and 2025. Therefore, a percentage change in institution quality will cause trade competitiveness to decrease by 0.1381percent. The theoretical implication of the results is that, the independent variable (ISQ) does not conform to economic theory. Also, the negative relationship between institution quality and trade competitiveness is not statistically significant with trade competitiveness since the p-value of 0.8616 is greater than the 5percent level of significance. Thus, the study accepts the null hypothesis of no significant relationship between institution quality and trade competitiveness.

The estimated result showed that, energy reliability (ER) is positively related with trade competitiveness in the selected Anglophone African countries between 2007 and 2025. Therefore, a percentage change in energy reliability will cause trade competitiveness to increase by 29.0234percent. The theoretical implication of the results is that, the independent variable (ER) is consistent with theoretical expectations. The positive relationship between energy reliability and trade competitiveness also showed that there is a significant relationship between energy reliability and trade competitiveness since the p-value of 0.0051is less than the 5percent level of significance. Thus, the study rejects the null hypothesis of no significant relationship between energy reliability and trade competitiveness.

Additionally, the estimated result showed that, firm capability (FC) is positively related with trade

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competitiveness in the selected Anglophone African countries between 2007 and 2025. Therefore, a percentage change in firm capability will cause trade competitiveness to increase by 41.6847 percent. The theoretical implication of the results is that the independent variable (FC) is consistent with theoretical expectations. The positive relationship between firm capability and trade competitiveness also showed that there is a significant relationship between firm capability and trade competitiveness since the p-value of 0.0451is less than the 5percent level of significance. Thus, the study rejects the null hypothesis of no significant relationship between firm capability and trade competitiveness.

Furthermore, the coefficient of determination (adjusted R-squared) of about 0.6158, showed that the explanatory power of the model is a good fit. This implies that the variation in trade competitiveness was caused by the changes in the independent variables (Backward Global Value Chain Participation, Logistics Performance, Institutional Quality, Energy Reliability and Firm Capabilities) is about 62percent. Hence, the remaining 38% is explained by other factors not included in the model. The F-test (p-value) which is 0.000 is less than the 5% critical value, this showed that the independent variables in the estimated model are jointly significant in explaining trade competitiveness at 5% level of significance. The Durbin Watson value at 1.4828 which when been approximated is very close to Durbin Watson benchmark of 2.0, showed that, serial correlation is not a serious problem in the estimated model. Therefore, the estimated model is valid for policy implementation.

5. CONCLUSION AND RECOMMENDATIONS

The global economy has placed considerable emphasis on global value chains in recent decades. These practices entail the dispersion of production processes among various nations, which facilitates specialization and increases in efficiency. Continents and nations that intend to exploit on their comparative advantages have begun to participate in numerous segments of global value chains, which have become a defining characteristic of international trade. In lieu of this background, this study examined the determinants of African contribution to global value chains and trade competitiveness in selected Anglophone countries between 2007 and 2025. The objectives of the study are to determine the effect of backward global value chain participation, logistics performance, institutional quality, energy reliability and firm capabilities on trade competitiveness. The study used the panel cointegration and panel least square (Fixed Effect) as the estimation techniques. The findings based on the panel least square fixed effect results showed that, backward global value chain participation had positive effect on trade competitiveness. Also, logistics performance is positively related with trade competitiveness. The estimated result showed that, institution quality is negatively related with trade competitiveness in the selected Anglophone African countries. The estimated result showed that, energy reliability and firm capability are positively related with trade competitiveness in the selected Anglophone African countries.

Based on the findings, it was concluded that to a large extent, global value chain positively contributed to increase in trade competitiveness in Anglophone African nations between 2007 and 2025. Thus, it was recommended that, it is imperative that the government and policy makers establish a definitive national policy regarding the development of value chains, which should be seamlessly incorporated with strategies pertaining to national trade, industrial progress, and trade competitiveness. Also, Governments should also promote the integration of renewable energy sources to enhance sustainability and reduce dependence on unstable power systems. Moreover, governments should adopt a comprehensive approach to firm development that includes investments in education and skills training, support for research and development, and the promotion of innovative ecosystems.

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References

African Development Bank (AfDB). (2020). *Industrialize Africa: strategies, policies, institutions, and financing*. Retrieved from https://www.afdb.org/en/documents/

Baldwin, R. (2016). The great convergence: Information technology and the new globalization. Harvard University Press.

Coe, N. M., & Yeung, H. W. C. (2015). *Global production networks: Theorizing economic development in an interconnected world*. Oxford University Press.

European Commission. (2023). Corporate sustainability due diligence directive.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy*, *12*(1), 78-104

Gereffi, G., & Fernandez-Stark, K. (2016). Global value chain analysis: A primer. Duke University.

Hausman, J. A. (1978). Specification tests in econometrics, *Econometrica, 46*(6), 1251-1271.

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics, 90*(1), 1-44.

Kaplinsky, R., & Morris, M. (2018). Handbook for value chain research. IDRC.

Koopman, R., Wang, Z., & Wei, S. J. (2014). Tracing value-added and double counting in gross exports, *American Economic Review, 104*(2), 459-494.

OECD. (2021). Trade in value added (TiVA) database. OECD Publishing.

Ponte, S., & Sturgeon, T. (2014). Explaining governance in global value chains, *Review of International Political Economy, 21*(1), 195-223.

Ponte, S. (2019). Business, power and sustainability in global value chains. Zed Books.

Rodrik, D. (2018). New technologies, global value chains, and developing economies. NBER Working Paper.

Taglioni, D. & Winkler, D. (2016). *Making global value chains work for development*. Trade and Development series, Washington, DC: World Bank.

Timmer, M. P., Dietzenbacher, E., Los, B. Stehrer, R. & de Vries, G. J. (2015). An illustrated user guide to the world input-output database: The case of global automotive production. *Review of International Economics,* 23(3), 575–605.

UNCTAD. (2023). World investment report 2023: Investing in sustainable energy. United Nations.

UNECA. (2021). Economic report on Africa. United Nations Economic Commission for Africa.

World Bank. (2020). World development report 2020: Trading for development in the age of global value chains. World Bank.

World Bank. (2023). World development report 2023: Development in the age of global value chains.

World Economic Forum. (2022). Global competitiveness report.

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