

Impact of the African Continental Free Trade Area on Manufacturing in Zambia: A Post-2021 Literature Review

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ABSTRACT

The African Continental Free Trade Area (AfCFTA), operational since January 2021, represents the most ambitious trade integration initiative in African history, uniting 54 countries into a single continental market for goods and services. For Least Developed Countries (LDCs) such as Zambia, manufacturing development is central to achieving structural transformation, sustainable employment creation, and export diversification beyond primary commodities. This paper presents a systematic review of contemporary literature published since 2021 to critically assess how AfCFTA is expected to influence four key dimensions of manufacturing development: output growth, competitiveness enhancement, firm-level performance, and institutional capacity for implementation. Employing a structured literature review methodology with explicit inclusion criteria and a conceptual framework linking trade integration mechanisms to manufacturing outcomes, the review synthesises evidence from computable general equilibrium models, structural gravity analyses, policy diagnostics, and early trade data assessments. Findings indicate that while AfCFTA presents substantial opportunities for industrial expansion through market access and regional value chain integration, realising these benefits is highly conditional upon domestic productive capacity, effective trade cost reduction, and robust policy implementation. The literature reveals significant heterogeneity in projected outcomes, with manufacturing gains disproportionately favouring countries that already possess diversified industrial bases. Critically, existing studies rely heavily on simulation models and regional diagnostics, with limited country-specific empirical evidence for Zambia. By systematically synthesising recent scholarship, this paper identifies four critical knowledge gaps and establishes a robust conceptual foundation for future empirical research investigating AfCFTA's manufacturing effects within the Zambian context, proposing specific methodological approaches and data sources for such investigation.

Keywords: AfCFTA; Manufacturing Development; Zambia; Trade Costs; Industrial Competitiveness; Institutional Capacity; Literature Review

INTRODUCTION

The African Continental Free Trade Area (AfCFTA) represents the most ambitious trade integration initiative ever undertaken on the African continent, bringing together 54 African Union member states into a unified market for goods and services with a combined population exceeding 1.3 billion people and aggregate gross domestic product approaching \$3.4 trillion [1]. Trading under AfCFTA formally commenced on 1 January 2021, with the expectation that the progressive elimination of tariffs, harmonisation of regulatory frameworks, and systematic improvement of trade facilitation measures would catalyse industrialisation, stimulate intra-African commerce, and accelerate structural transformation across participating economies [2]. Manufacturing has been explicitly identified as a priority sector within the AfCFTA framework, particularly for Least Developed Countries (LDCs) seeking sustainable pathways to transition away from commodity dependence toward more diversified and resilient economic structures [3].

Despite these ambitious expectations, emerging scholarship published since the commencement of AfCFTA trading suggests that the relationship between regional trade integration and manufacturing development is considerably more complex and context-specific than initial projections implied. While simulation-based analyses project significant aggregate industrial gains across the continent, more nuanced assessments caution that countries with limited existing productive capacity, underdeveloped infrastructure, and weak institutional frameworks may struggle to translate enhanced market access into tangible improvements in manufacturing output, productivity, and competitiveness [4, 5]. The distributional implications of AfCFTA thus remain contested, with critical questions emerging regarding which countries, sectors, and firm types stand to benefit most from liberalised continental trade.

Zambia presents a particularly salient case for examining these dynamics. As a landlocked LDC with a small but strategically important manufacturing sector, high domestic production costs driven by energy constraints and logistics inefficiencies, and substantial reliance on imported intermediate inputs, Zambia faces both significant opportunities and formidable challenges in leveraging AfCFTA for industrial development [6]. The country's manufacturing value added remains modest relative to regional peers, contributing approximately 8% of GDP, while its export basket remains dominated by copper and other primary commodities [7]. Understanding how AfCFTA implementation is likely to affect Zambia's manufacturing trajectory thus carries substantial implications for economic policy, industrial strategy, and development planning.

This paper undertakes a systematic review of post-2021 literature examining the relationship between AfCFTA and manufacturing development, with particular attention to evidence relevant to Zambia and comparable LDC contexts. The review employs a structured methodology with explicit inclusion criteria and is organised around a conceptual framework linking AfCFTA mechanisms to manufacturing outcomes. By critically synthesising recent evidence, the paper identifies significant knowledge gaps that motivate focused empirical investigation into AfCFTA's manufacturing impact within the Zambian context and proposes specific methodological approaches for such future research.

METHODOLOGY AND REVIEW FRAMEWORK

Literature Search Strategy

This systematic literature review follows established protocols for conducting rigorous reviews of scholarly and policy literature [22]. The search strategy employed multiple academic databases including Scopus, Web of Science, EconLit, African Journals Online (AJOL), and Google Scholar. Additionally, institutional repositories of key organisations working on African trade policy were systematically searched, including the United Nations Economic Commission for Africa (UNECA), World Bank, International Monetary Fund (IMF), African Development Bank (AfDB), United Nations Conference on Trade and Development (UNCTAD), Organisation for Economic Co-operation and Development (OECD), and the AfCFTA Secretariat.

The primary search terms included combinations of: 'AfCFTA', 'African Continental Free Trade Area', 'manufacturing', 'industrialisation', 'industrial development', 'trade integration', 'Zambia', 'least developed countries', 'LDC', 'trade costs', 'competitiveness', and 'institutional capacity'. Boolean operators were employed to refine searches, and citation tracking was used to identify additional relevant sources from reference lists of key publications.

Inclusion and Exclusion Criteria

The review applied the following inclusion criteria: (a) publication date between January 2021 and December 2025, corresponding to the period since AfCFTA trading commenced; (b) explicit focus on AfCFTA or African regional trade integration; (c) substantive discussion of manufacturing, industrial development, or productive capacity; (d) peer-reviewed journal articles, working papers from recognised institutions, or official policy documents from international organisations; and (e) English language publications. Exclusion criteria comprised: (a) publications predating AfCFTA operationalisation that did not address implementation dynamics; (b) purely theoretical discussions without empirical content or policy relevance; (c) journalistic or opinion pieces without scholarly rigour; and (d) duplicate publications of the same research.

Analytical Framework

The review is structured around four analytical dimensions that emerge consistently across the literature as determinants of manufacturing outcomes under regional trade integration: (i) manufacturing output effects, examining how AfCFTA affects aggregate industrial production; (ii) competitiveness dynamics, assessing how firms and sectors respond to changed competitive conditions; (iii) trade costs and firm performance, investigating the transmission mechanisms between trade facilitation and firm-level outcomes; and (iv) institutional capacity for effective implementation, evaluating how governance factors moderate AfCFTA's manufacturing effects. This framework draws upon established theoretical perspectives in international trade economics, including new trade theory emphasising economies of scale and product differentiation [23], heterogeneous firm trade models highlighting firm-level responses to trade liberalisation [24], and institutional economics perspectives on the role of governance in mediating policy outcomes [25].

Limitations of the Review Methodology

Several methodological limitations should be acknowledged. First, the relatively recent commencement of AfCFTA trading means that empirical studies examining actual implementation effects remain limited, with much of the literature relying on simulation-based projections or early trade data. Second, the English language restriction may have excluded relevant francophone and lusophone African scholarship. Third, the focus on formal academic and institutional publications may have omitted valuable insights from practitioner reports and industry analyses. These limitations are addressed through explicit acknowledgment of the evidence base's characteristics and careful interpretation of findings in light of methodological approaches employed in reviewed studies.

Conceptual Framework: Linking AfCFTA Mechanisms To Manufacturing Outcomes In Zambia

Understanding how AfCFTA may affect manufacturing development in Zambia requires a conceptual framework that maps the transmission mechanisms between trade integration provisions and firm-level and sectoral outcomes. This framework identifies four primary channels through which AfCFTA influences manufacturing development, alongside key moderating factors that condition the strength and direction of these effects.

Primary Transmission Channels

Market Access Channel: AfCFTA's progressive tariff elimination creates expanded market opportunities for Zambian manufacturers by reducing price disadvantages in continental markets. For Zambian firms, this channel operates through preferential access to markets in 53 other African countries, potentially enabling scale economies that domestic market size alone cannot support. However, the effectiveness of this channel is moderated by rules of origin requirements, which determine whether Zambian products qualify for preferential treatment, and by competitive conditions in destination markets [8, 9].

Input Cost Channel: Tariff reduction on intermediate inputs can lower production costs for Zambian manufacturers dependent on imported raw materials and components. Given Zambia's reliance on imported manufacturing inputs, this channel could significantly affect firm-level competitiveness. The magnitude of this effect depends on the composition of tariff schedules, the extent of Zambia's import dependence in specific manufacturing subsectors, and the speed of tariff liberalisation implementation [4].

Competition Channel: Enhanced market access operates bidirectionally, exposing Zambian manufacturers to increased import competition from more efficient continental producers. This competitive pressure may induce productivity improvements among firms capable of adjustment, but may also displace less competitive producers. The net effect on Zambian manufacturing depends critically on the initial competitiveness of domestic firms and their capacity for technological upgrading [12, 13].

Value Chain Integration Channel: AfCFTA facilitates deeper integration into regional value chains by reducing barriers to cross-border production fragmentation. For Zambian manufacturers, this creates

opportunities to specialise in specific production stages where comparative advantages exist, potentially attracting investment from regional lead firms. However, realising these opportunities requires adequate infrastructure, reliable energy supply, and supportive logistics systems [14, 15].

Moderating Factors

The framework identifies four categories of moderating factors that condition how AfCFTA's primary channels translate into manufacturing outcomes in Zambia:

Structural Factors: Zambia's landlocked geography, concentrated export structure (copper dominance), limited manufacturing diversification, and high energy costs represent structural conditions that fundamentally shape how AfCFTA effects manifest. These factors create baseline disadvantages that trade preferences alone cannot overcome [6, 7].

Institutional Factors: The capacity of Zambian trade-related institutions to implement AfCFTA provisions effectively, including customs administration, standards bodies, and trade promotion agencies, moderates the translation of formal commitments into operational reality [11, 20].

Firm-Level Factors: The heterogeneity of Zambian manufacturing firms in terms of size, technological capability, export experience, and access to finance determines their capacity to respond to AfCFTA-induced changes in competitive conditions [14, 18].

Policy Complementarities: The presence or absence of complementary industrial policies, infrastructure investments, and trade facilitation reforms affects whether AfCFTA's potential benefits are realised. Trade liberalisation in isolation may generate limited manufacturing gains without supportive policy interventions [5, 12].

Expected Outcomes and Empirical Predictions

The conceptual framework generates several empirically testable predictions for future research on AfCFTA's manufacturing effects in Zambia. First, manufacturing output responses are expected to exhibit significant heterogeneity across subsectors, with sectors characterised by lower import dependence and stronger competitive positions experiencing more positive outcomes. Second, firm-level competitiveness effects should vary systematically with firm characteristics, particularly size, export orientation, and technological intensity. Third, trade cost reductions should demonstrate measurable impacts on firm profitability and export performance, conditional on trade facilitation progress. Fourth, the magnitude of AfCFTA benefits should correlate with measures of institutional quality and implementation effectiveness. These predictions provide a structured basis for future empirical investigation.

Afcfta And Manufacturing Output

Recent literature positions AfCFTA as a potentially transformative catalyst for manufacturing output growth across participating African economies, primarily through mechanisms of market expansion, economies of scale, and regional value chain development. Simulation-based analyses employing computable general equilibrium (CGE) modelling approaches dominate this strand of the literature, generating projections of substantial industrial gains contingent upon full implementation of agreed liberalisation schedules [2, 8].

The United Nations Economic Commission for Africa (UNECA) [2] estimates that AfCFTA could increase aggregate manufacturing output across the continent by expanding effective demand for value-added goods, enabling production specialisation according to comparative advantage, and facilitating greater integration into regional and global value chains. Their CGE analysis projects that full tariff liberalisation combined with a 50% reduction in non-tariff barriers could increase intra-African manufacturing trade by over 110% by 2035, with corresponding output multiplier effects across participating economies. Similarly, Abrego et al. [8], employing a multi-country, multi-sector CGE framework, predict that AfCFTA implementation will generate substantial industrial gains arising from production specialisation, enhanced scale economies, and improved allocative efficiency.

However, it is essential to interpret these simulation-based projections with appropriate caution. CGE models necessarily incorporate simplifying assumptions regarding firm behaviour, market structure, and adjustment dynamics that may not accurately reflect real-world conditions, particularly in LDC contexts characterised by market imperfections, institutional constraints, and heterogeneous firm capabilities. **Critically, these models typically assume full and immediate implementation of agreed commitments, whereas actual AfCFTA implementation has proceeded incrementally with significant variation across member states [19].** Additionally, simulation approaches cannot capture the political economy dynamics, implementation challenges, and unforeseen shocks that shape actual outcomes.

Empirically grounded assessments paint a considerably more cautious picture regarding the distribution and timing of manufacturing output gains. The United Nations Conference on Trade and Development (UNCTAD) [4] argues that manufacturing output improvements are fundamentally conditional upon existing domestic industrial capacity and may be substantially delayed in countries characterised by weak supply-side capabilities, limited technological absorption capacity, and inadequate productive infrastructure. Their analysis emphasises that without complementary investments in productive capacity, trade liberalisation alone may expose nascent manufacturing sectors to intensified import competition without generating compensating export opportunities.

Felbermayr et al. [9], employing a structural gravity model with heterogeneous firm dynamics, find that manufacturing output responses to preferential trade agreements exhibit substantial cross-country heterogeneity, with significantly stronger positive effects observed in economies that already possess diversified manufacturing sectors, established export platforms, and competitive firm populations. Their analysis suggests that LDCs with concentrated industrial structures face elevated adjustment costs and may experience extended periods of output contraction before realising integration benefits. The Organisation for Economic Co-operation and Development (OECD) [5] similarly reports that LDCs face significant adjustment challenges related to standards compliance, technology upgrading requirements, and complex rules of origin provisions, which can dampen short-term output growth and delay the realisation of projected manufacturing gains.

Early empirical analysis of AfCFTA trade flows reinforces these cautionary assessments. Ghodsi et al. [10], analysing initial manufacturing trade patterns following AfCFTA operationalisation, observe that early manufacturing gains are unevenly distributed across member states, with relatively industrialised economies capturing disproportionate shares of expanded intra-African trade flows. Their econometric analysis identifies significant composition effects, whereby countries with pre-existing manufacturing export capacity experience trade creation while others face trade diversion away from existing markets.

For Zambia specifically, available evidence suggests that structural constraints including elevated energy costs, limited sectoral diversification beyond copper-related manufacturing, low firm awareness of AfCFTA provisions, and inadequate trade-related infrastructure are likely to limit immediate output responses to continental integration [6, 11]. Notably, no post-2021 empirical study directly measures AfCFTA-induced manufacturing output changes within the Zambian context, representing a significant gap in the evidence base. Table 1 summarises key contributions to this literature strand.

Table 1: Post-2021 Literature on AfCFTA and Manufacturing Output

Author(s)	Methodology	Key Findings	Limitations/Gaps
UNECA [2]	CGE modelling	Substantial projected output gains from tariff elimination and NTB reduction	Simulation-based; not empirically validated; assumes full implementation
UNCTAD [4]	Policy analysis	Output gains conditional on domestic productive capacity	No country-specific analysis

Felbermayr et al. [9]	Structural gravity	Heterogeneous effects; stronger in diversified economies	Limited LDC disaggregation
OECD [5]	Comparative diagnostics	Adjustment costs constrain LDC output gains	Zambia not specifically analysed
Ghodsi et al. [10]	Panel econometrics	Early gains unevenly distributed	Zambia excluded from sample

Source: Authors' compilation from reviewed literature

Afcfta And Manufacturing Competitiveness

Manufacturing competitiveness fundamentally determines whether individual firms and national economies can effectively exploit new market opportunities created through AfCFTA liberalisation. The post-2021 literature emphasises that tariff reduction alone is insufficient to improve competitiveness outcomes without complementary policies addressing underlying structural constraints. This finding has significant implications for LDCs where competitiveness deficits are often pronounced across multiple dimensions [12, 13].

Signé and Madden [12], examining the political economy of AfCFTA implementation, argue that continental integration may paradoxically widen competitiveness gaps between more and less industrialised African economies if industrial policy coordination remains weak and asymmetric adjustment burdens are not adequately addressed. Their analysis highlights that countries with established manufacturing capabilities, developed export infrastructure, and sophisticated trade finance systems are positioned to capture market share from less competitive producers, potentially reinforcing rather than reducing continental industrial inequalities.

Balchin et al. [13], conducting comparative industrial analysis across African manufacturing sectors, demonstrate that persistent structural constraints continue to undermine competitiveness despite trade liberalisation initiatives. Their analysis identifies elevated energy costs, limited access to affordable trade finance, low technological intensity in production processes, and skills mismatches in the manufacturing workforce as binding constraints that tariff preferences alone cannot address. These findings suggest that competitiveness improvements require comprehensive industrial policy interventions extending well beyond trade policy measures.

World Bank [14] firm-level diagnostics further demonstrate that logistics inefficiencies, regulatory compliance costs, and cumbersome border procedures remain significant binding constraints for African manufacturers, particularly those in LDC contexts. Their analysis indicates that transport costs in landlocked African countries can add 15-20% to final product prices, substantially eroding price competitiveness in regional markets. While Abrego et al. [8] predict competitiveness gains through enhanced regional value chain integration, their simulation approach assumes relatively rapid firm adjustment to changed trade conditions, which may not accurately reflect adjustment dynamics in countries characterised by heterogeneous firm capabilities and limited access to adjustment finance.

For Zambia, available evidence suggests persistent and substantial competitiveness challenges that may limit the country's ability to benefit from AfCFTA preferences. UNECA [11] highlights that high input costs, particularly for electricity and transport, combined with weak innovation systems and limited technological upgrading capacity, constrain Zambian manufacturers' ability to compete effectively within regional markets. The World Bank [6] notes that Zambia's manufacturing firms face among the highest electricity costs in the Southern African Development Community (SADC) region, while transport and logistics inefficiencies further reduce price competitiveness for both domestic and export markets. Empirical firm-level analysis examining AfCFTA-related competitiveness outcomes specifically within Zambia remains notably absent from the literature. Table 2 summarises the key contributions in this area.

Table 2: Post-2021 Literature on AfCFTA and Manufacturing Competitiveness

Author(s)	Methodology	Key Findings	Limitations/Gaps
Signé & Madden [12]	Political economy analysis	AfCFTA may widen competitiveness gaps without coordinated industrial policy	Lacks firm-level empirical evidence
Balchin et al. [13]	Comparative industrial analysis	High energy and finance costs undermine competitiveness	Focuses on regional averages
World Bank [14]	Firm-level diagnostics	Logistics and compliance costs constrain competitiveness	Zambia discussed only descriptively
Abrego et al. [8]	CGE modelling	Regional value chains could improve competitiveness	Assumes rapid firm adjustment
UNECA [11]	Policy implementation review	Weak innovation systems limit firm competitiveness	No empirical competitiveness metrics

Source: Authors' compilation from reviewed literature

Trade Costs and Manufacturing Firm Performance

Reducing trade costs constitutes a central objective of AfCFTA and a critical determinant of whether liberalisation translates into improved manufacturing firm performance. The World Bank [15] estimates that African trade costs remain among the highest globally, driven substantially by non-tariff barriers, logistics inefficiencies, cumbersome customs procedures, and inadequate trade-related infrastructure. These elevated trade costs act as significant impediments to intra-African manufacturing trade and regional value chain development [16].

Ekeocha et al. [16], systematically assessing non-tariff barriers under AfCFTA, find that despite formal commitments to NTB elimination, significant barriers continue to restrict intra-African trade flows in practice. Their analysis identifies sanitary and phytosanitary measures, technical barriers to trade, and rules of origin compliance requirements as particularly constraining for manufacturing firms, especially small and medium enterprises lacking resources for complex certification processes. These findings suggest that tariff liberalisation benefits may be substantially offset by persistent non-tariff impediments.

More recent studies provide evidence that targeted trade facilitation reforms can generate measurable improvements in manufacturing firm performance. Korinek and Sourdin [17], analysing the relationship between digital customs systems and firm-level outcomes, demonstrate that electronic documentation, automated risk assessment, and streamlined clearance procedures enhance manufacturing firm productivity and reduce trade-related transaction costs. Their analysis suggests that trade facilitation investments can generate returns comparable to or exceeding tariff liberalisation in terms of trade expansion effects.

Lesser and Moïsé [18], employing firm-level regression analysis across developing economy contexts, find that manufacturing firms benefiting from reduced border clearance times and simplified documentary requirements experience statistically significant improvements in profitability, export growth, and productive investment. Their analysis indicates that trade facilitation reforms disproportionately benefit smaller manufacturing firms that previously faced prohibitive fixed costs of engaging in international trade.

The AfCFTA Secretariat [19] implementation monitoring reports acknowledge that trade facilitation progress remains uneven across member states, with significant variations in customs modernisation, border infrastructure development, and digital systems implementation. Their assessments indicate that landlocked countries, including Zambia, face particularly acute trade facilitation challenges related to transit arrangements, corridor

management, and coordination with neighbouring transit countries. The implementation gap between formal commitments and operational reality represents a significant constraint that simulation-based projections often underestimate.

Critically, none of the reviewed studies specifically examine how AfCFTA-related trade cost changes affect manufacturing firm performance within Zambia, leaving a substantial gap in understanding the transmission mechanisms between continental integration and firm-level outcomes in the Zambian context. Table 3 summarises the relevant literature.

Table 3: Post-2021 Literature on AfCFTA, Trade Costs, and Manufacturing Firm Performance

Author(s)	Methodology	Key Findings	Limitations/Gaps
World Bank [15]	Trade cost decomposition	Africa faces persistently high non-tariff trade costs	Pre-AfCFTA firm responses not isolated
Ekeocha et al. [16]	NTB assessment	Non-tariff barriers remain binding under AfCFTA	Country-specific impacts unclear
Korinek & Sourdin [17]	Econometric firm analysis	Digital customs reduce trade costs and raise productivity	Zambia not included
Lesser & Moïse [18]	Firm-level regression	Trade facilitation improves firm profitability	Limited African LDC coverage
AfCFTA Secretariat [19]	Implementation monitoring	Trade facilitation progress uneven across member states	No firm-level outcome analysis

Source: Authors' compilation from reviewed literature

Institutional Capacity and AfCFTA Implementation

Institutional effectiveness plays a decisive moderating role in shaping AfCFTA outcomes for manufacturing development. The post-2021 literature consistently emphasises that countries with stronger trade-related institutions, more effective inter-agency coordination mechanisms, and greater administrative capacity are better positioned to translate AfCFTA preferences into tangible industrial benefits [11, 20].

UNECA [11], conducting institutional capacity assessments across AfCFTA member states, identifies weak coordination among national implementing agencies as a major constraint limiting effective implementation across LDCs. Their analysis finds that fragmented institutional responsibilities, unclear mandates, and inadequate resource allocation to trade-related agencies significantly delay the translation of AfCFTA commitments into operational reality. These institutional deficits disproportionately affect manufacturing sectors, where complex certification requirements, standards harmonisation, and rules of origin verification demand sophisticated administrative capabilities.

Amoako-Tuffour et al. [20], examining institutional readiness for AfCFTA implementation, highlight significant capacity constraints in customs administration and standards institutions across participating countries. Their diagnostic analysis indicates that many LDCs lack adequate laboratory infrastructure for product testing, sufficient trained personnel for conformity assessment, and automated systems for efficient customs processing. These institutional limitations create implementation bottlenecks that delay or prevent manufacturing firms from accessing AfCFTA preferences.

Zambia-specific policy reviews provide additional context on institutional challenges. The International Labour Organization (ILO) [21] notes that regulatory fragmentation across trade, industry, and labour portfolios affects industrial participation in AfCFTA implementation, with manufacturing firms facing complex and sometimes contradictory regulatory requirements across different agencies. The AfCFTA Secretariat [19] compliance

assessments similarly identify uneven implementation capacity across Zambia's trade-related institutions, with particular gaps in trade information dissemination, exporter support services, and dispute resolution mechanisms.

The World Bank [6], in its country economic update for Zambia, observes that institutional inefficiencies contribute to elevated transaction costs that constrain manufacturing competitiveness. Their analysis links institutional quality indicators to manufacturing firm performance outcomes, suggesting that institutional improvements could generate significant competitiveness dividends for Zambian manufacturers participating in regional trade.

Despite broad scholarly agreement on the importance of institutional capacity for AfCFTA outcomes, empirical studies directly linking institutional quality measures to manufacturing performance outcomes under AfCFTA remain notably limited, particularly at the country level. This represents a significant analytical gap given the central role that institutions play in mediating between trade policy reforms and firm-level outcomes. Table 4 summarises the relevant literature contributions.

Table 4: Post-2021 Literature on Institutional Capacity and AfCFTA Implementation

Author(s)	Methodology	Key Findings	Limitations/Gaps
UNECA [11]	Institutional capacity assessment	Weak inter-agency coordination delays AfCFTA benefits	Qualitative focus
Amoako-Tuffour et al. [20]	Institutional diagnostics	Customs and standards capacity constrain implementation	No manufacturing outcome analysis
ILO [21]	Policy review	Regulatory fragmentation affects industrial participation	Descriptive, non-quantitative
AfCFTA Secretariat [19]	Compliance assessment	Implementation capacity varies significantly across countries	No firm-level linkage
World Bank [6]	Country economic update	Institutional inefficiencies raise transaction costs in Zambia	AfCFTA effects not isolated

Source: Authors' compilation from reviewed literature

Synthesis And Identification of Research Gaps

The systematic review of post-2021 literature examining the relationship between AfCFTA and manufacturing development reveals three consistent thematic findings that emerge across methodological approaches and analytical perspectives.

First, AfCFTA offers substantial potential benefits for manufacturing development across participating African economies, but these benefits are fundamentally conditional and likely to be unevenly distributed. The literature consistently indicates that countries with stronger pre-existing industrial bases, more diversified manufacturing sectors, and greater productive capacity are positioned to capture disproportionate shares of manufacturing gains from continental integration. For LDCs with limited industrial development, including Zambia, realising AfCFTA's manufacturing potential requires complementary investments in productive capacity, infrastructure, and institutional strengthening that extend well beyond trade policy measures.

Second, trade cost reduction and associated improvements in manufacturing firm performance depend critically on effective implementation of trade facilitation measures and complementary policy reforms. The literature demonstrates that tariff liberalisation alone generates limited manufacturing benefits when non-tariff barriers, logistics inefficiencies, and institutional constraints continue to impose substantial transaction costs on firms. For landlocked countries such as Zambia, trade facilitation challenges are particularly acute and require sustained attention to corridor management, customs modernisation, and digital systems development.

Third, institutional capacity plays a decisive moderating role in determining whether AfCFTA commitments translate into tangible manufacturing outcomes. Countries with stronger trade-related institutions, more effective coordination mechanisms, and greater administrative capacity are better positioned to implement AfCFTA provisions effectively and support firm-level adjustment to changed trade conditions. Institutional strengthening thus emerges as a critical priority for countries seeking to maximise manufacturing benefits from continental integration.

Critically, the review reveals a substantial reliance on simulation-based methodologies in the existing literature. While CGE models and structural gravity analyses provide valuable insights into potential AfCFTA effects, they necessarily incorporate assumptions about firm behaviour, adjustment dynamics, and implementation trajectories that may not accurately reflect real-world conditions. The gap between projected outcomes and actual implementation experiences represents a significant limitation that underscores the need for empirical research examining actual AfCFTA effects as implementation progresses.

For Zambia specifically, the review identifies substantial gaps in empirical evidence across all four dimensions examined. While regional analyses and continental simulations provide valuable contextual insights, no post-2021 study directly measures AfCFTA's impact on manufacturing output, competitiveness, firm performance, or the moderating role of institutional capacity specifically within Zambia. This substantial evidence gap significantly limits the foundation for evidence-based policy development and industrial strategy formulation in the Zambian context.

Table 5 synthesises the identified knowledge gaps and indicates how future empirical research focused on Zambia could contribute to addressing these deficiencies in the current evidence base.

Table 5: Integrated Knowledge Gaps and Contribution of Future Empirical Research

Literature Theme	Established Findings	Unresolved Gap	Potential Research Contribution
Manufacturing Output	AfCFTA can conditionally raise output in diversified economies	No Zambia-specific empirical evidence	Firm-level output assessment using Zambian manufacturing data
Competitiveness	Structural costs limit competitiveness gains for LDCs	Competitiveness effects unmeasured in Zambia	Empirical competitiveness modelling with Zambian firm data
Trade Costs	NTBs and logistics costs remain significant constraints	Trade cost-performance link unclear for Zambia	Trade cost-firm performance analysis using Zambian data
Institutions	Institutional capacity critically affects implementation outcomes	Moderating effects untested empirically	Institutional moderation analysis in Zambian context

Source: Authors' synthesis from reviewed literature

POLICY IMPLICATIONS FOR ZAMBIA

The synthesis of post-2021 literature on AfCFTA and manufacturing development yields several actionable policy implications for Zambian policymakers, industrial stakeholders, and development partners. These recommendations are grounded in the evidence reviewed and aligned with the conceptual framework linking trade integration mechanisms to manufacturing outcomes.

Strengthening Productive Capacity

The literature consistently demonstrates that AfCFTA benefits accrue disproportionately to countries with existing manufacturing capacity. For Zambia, this implies that trade liberalisation must be accompanied by

deliberate investments in productive infrastructure, technology upgrading, and skills development. Specific priorities include: addressing the energy cost burden through renewable energy investments and power sector reforms; establishing manufacturing-focused industrial parks with reliable infrastructure; and implementing targeted skills training programmes aligned with manufacturing sector needs. Without such investments, Zambian manufacturers risk being displaced by more competitive regional producers rather than capturing expanded market opportunities.

Accelerating Trade Facilitation Reforms

Given Zambia's landlocked position and the documented importance of trade costs in determining firm performance, trade facilitation reforms deserve prioritised attention. Policy measures should include: accelerating customs modernisation through digital systems implementation; strengthening corridor management arrangements with transit countries, particularly through the Dar es Salaam and Walvis Bay corridors; investing in trade-related infrastructure at border posts and inland clearance facilities; and simplifying documentary requirements for exporters. The establishment of a National Trade Facilitation Committee with adequate resources and authority would help coordinate these efforts across relevant agencies.

Building Institutional Capacity

The literature highlights institutional capacity as a critical moderating factor in AfCFTA outcomes. For Zambia, this requires: strengthening the Zambia Bureau of Standards to meet regional certification requirements; enhancing the capacity of the Zambia Development Agency to provide effective exporter support services; improving inter-agency coordination through clear mandates and regular consultation mechanisms; and investing in trade information systems to improve firm awareness of AfCFTA provisions and requirements. Capacity building efforts should be accompanied by adequate budget allocations and human resource development.

Supporting Firm-Level Adjustment

Recognising that AfCFTA creates both opportunities and competitive pressures, policies should support firm-level adjustment to changed trade conditions. This includes: establishing AfCFTA-specific financing facilities through development finance institutions to support firm upgrading and export development; providing technical assistance to help manufacturing firms meet rules of origin requirements and access AfCFTA preferences; and creating platforms for information sharing and business linkages between Zambian manufacturers and regional value chain participants. Particular attention should be given to small and medium enterprises that face the greatest barriers to accessing AfCFTA opportunities.

Monitoring and Evidence-Based Adaptation

Given the limited empirical evidence on AfCFTA effects in Zambia identified in this review, establishing robust monitoring systems is essential for evidence-based policy adaptation. Priorities include: conducting regular firm-level surveys to track manufacturing performance under AfCFTA; establishing baseline data against which AfCFTA effects can be assessed; and creating feedback mechanisms through which private sector experiences inform policy adjustments. The policy framework should remain adaptive, with periodic reviews that incorporate emerging evidence on implementation experiences.

CONCLUSION AND FUTURE RESEARCH AGENDA

This systematic literature review demonstrates that while the African Continental Free Trade Area represents a significant opportunity for manufacturing development across the African continent, outcomes for Least Developed Countries such as Zambia remain uncertain and substantially contingent upon factors beyond trade liberalisation alone. The post-2021 literature provides valuable insights into the conditions under which AfCFTA may generate manufacturing benefits, but also reveals important limitations in our current understanding of how continental integration affects manufacturing development in specific country contexts.

The existing evidence base is characterised by a predominant reliance on simulation modelling approaches and regional diagnostic assessments that, while analytically valuable, cannot substitute for country-specific empirical analysis. Simulation models necessarily incorporate assumptions about firm behaviour, adjustment dynamics, and implementation trajectories that may not accurately reflect conditions in individual country contexts. Regional diagnostics provide useful comparative benchmarks but cannot capture the specific institutional configurations, structural constraints, and policy environments that shape manufacturing outcomes within particular national settings. The gap between projected outcomes and implementation realities underscores the need for empirical research that examines actual AfCFTA effects as implementation progresses.

For Zambia specifically, the review identifies substantial gaps in empirical evidence across all four dimensions examined: manufacturing output effects, competitiveness dynamics, trade cost-firm performance linkages, and institutional moderation of AfCFTA outcomes. These gaps significantly constrain the foundation for evidence-based policy development and industrial strategy formulation. Addressing these knowledge deficiencies requires focused empirical research employing firm-level data, rigorous methodological approaches, and analytical frameworks appropriate to the Zambian context.

Proposed Research Agenda

This review establishes a foundation for future empirical research on AfCFTA's manufacturing effects in Zambia. The following research agenda emerges from the identified knowledge gaps:

Manufacturing Output Analysis: Future research should employ firm-level panel data from Zambian manufacturing establishments to assess AfCFTA-induced changes in output, employment, and productivity. Methodological approaches could include difference-in-differences designs comparing outcomes for firms in AfCFTA-affected sectors versus control groups, or event study analyses examining responses to specific implementation milestones. Data sources include the Central Statistical Office's Census of Industrial Production and firm-level surveys conducted by the Zambia Development Agency.

Competitiveness Assessment: Empirical analysis of competitiveness effects should employ revealed comparative advantage indices, unit value analysis of export prices, and firm-level productivity estimation using approaches such as Levinsohn-Petrin or Akerberg-Caves-Frazer methodologies. Data from customs records, combined with firm surveys, would enable assessment of how AfCFTA affects Zambian manufacturers' competitive position in regional markets.

Trade Cost-Performance Linkages: Research examining trade facilitation effects should link measures of trade costs (border clearance times, documentary requirements, logistics performance indicators) to firm-level performance outcomes. The World Bank's Enterprise Surveys and Doing Business data provide valuable inputs, which could be supplemented by primary data collection on trade facilitation experiences of Zambian exporters.

Institutional Moderation Analysis: Investigating the moderating role of institutions requires combining measures of institutional quality (regulatory indices, governance indicators, agency capacity assessments) with firm-level outcome data in interaction models. Multi-level modelling approaches could assess how institutional factors condition firm-level responses to AfCFTA provisions.

Such research would contribute not only to academic understanding of regional trade integration effects but also to practical policy guidance for maximising Zambia's manufacturing development opportunities under AfCFTA. By establishing a robust empirical foundation, researchers can help ensure that continental integration serves as an effective catalyst for sustainable industrial development and structural transformation in Zambia and comparable LDC contexts.

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