

Prospects and challenges of achieving structural transformation in Africa through the African Continental Free Trade Area

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African integration, development finance, unequal trade, economic efficiency, structural transformation

Abstract

The African Continental Free Trade Area (AfCFTA) agreement seeks to integrate markets in Africa into one large market. With the growing concerns about continental integration, this study identifies prospects and challenges of achieving structural transformation in Africa through the AfCFTA. The study employs the Interactive Structural Modelling technique, which helps to develop a contextual relationship between the factors in terms of their driving power or dependence power. The results indicate that unequal trade and investment opportunities, poor infrastructure, poor access to development finance, and the degree of industrialisation have a high driving power, hence a greater potential to create a ripple effect on other factors associated with African integration. Based on the findings, this study recommends that a platform be created within the agreement where these challenges can be tackled. In this view, the establishment of various development finance institutions monitored and facilitated by the AfCFTA affiliates, could be explored.

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1. Introduction

Since the end of the Second World War, the global trading system has made significant changes contributing towards trade liberalisation. In some cases, during the liberalisation process, preferential free trade areas have been established among various economies to eliminate trade barriers and promote international trade. The view is that by eliminating trade barriers, member countries' welfare could improve. This argument has been put forth and proven by Bond et al (2004), Brown et al. (2005), Chukwu (2022), and Panagariya and Krishna (2002), to mention a few studies. Further to that, Ornelas (2004) indicates the possibility that non-member countries may also benefit from the free trade agreement because of a fall in external tariffs.

The significance of free trade agreements in enhancing community development, therefore, is an issue that has attracted considerable debate on the benefits and costs of implementing free trade policies. Some of the proponents of free trade policies argue that regional trade agreements provide market access and increased trade activities and can also bring about welfare gains to the countries involved in the agreement (Carrère, 2004; Dennis, 2006; Harrison et al., 2002). As an example, evidence from Brown et al (2005), drawn from the Free Trade Area of the Americas (FTAA), shows that the FTAA would increase total member welfare by \$476.8 billion and global welfare by \$812.7 billion.

Apart from evidence from the developed regions, there has also been evidence of the benefits of free trade areas in the context of emerging economies and developing areas. Among others, these include the

free trade area of the Association of Southeast Asian Nations (ASEAN) countries and the African Continental Free Trade Area (AfCFTA). In one of the studies, Plummer *et al.* (2010) investigate the effects of the ASEAN Free Trade Area and find that because of the Agreement, there has been an expansion in the real GDP of most of the member countries.

As relates to Africa, there has been growing evidence that the African Continental Free Trade Areas could bring some relief to the continent. Using a global multi-sector general equilibrium model, Abrego *et al.* (2019) confirm significant potential welfare gains stemming from tariff eliminations and the reduction in non-tariff barriers in the African Continental Free Trade Area (AfCFTA). Furthermore, empirical results based on country-level studies also echo similar findings regarding the potential benefits of the African Continental Free Trade Area. For instance, Chukwu (2022) analyses the potential effects of the AfCFTA on the Nigerian economy and finds that Nigeria could realise significant trade-creating effects and welfare gains arising from this free trade agreement. Likewise, in a study focusing on one of the East African countries, namely, Uganda, Chien *et al.* (2022) conclude that the African Continental Free Trade Area presents the country with continent-wide market access.

While there can be various benefits resulting from free trade areas, there are conflicting views regarding their overall effects. For instance, there is a concern that free trade areas could result in trade diversion and polarised development. Polarised development in African trade has been witnessed in cases where some economies benefit from trade and investment opportunities while others are left behind (McCarthy, 1999). In explaining trade diversion in the context of Africa, the argument is that the African Continental Free Trade Area could potentially divert imports from efficient external producers to less efficient regional producers that are part of the internal agreement (Chien *et al.*, 2022).

Despite the inconclusiveness regarding the gains and losses arising from establishing a free trade area, empirical evidence from Africa suggests that although regional trade agreements may not always be trade-creating or trade-diverting, overall, they may still bring positive effects. In this view, the hypothesis made in the current study is that through African trade agreements, the region could realise various potential benefits that could bring about improved intra-trade activities that could aid regional development in the long run. The potential benefits of the free trade agreements in the African region have been highlighted by previous studies including Barnekow and Kulkarni (2017), IMF (2023), and Te Velde (2021), which to some extent argue that trade provisions could enhance foreign direct investment, productivity, and industrialisation.

Against the above backdrop, the purpose of this paper is to assess the prospects and challenges of achieving structural transformation in Africa through free trade agreements. Using the African Continental Free Trade Area (AfCFTA), the current study investigates the factors constituting the prospects and challenges of the AfCFTA, which vary from structural, political, and institutional bottlenecks. The present study is motivated by the fact that while the AfCFTA is vocal about the integration of markets in the African continent, it remains unclear as to how exactly the agreement will affect the long-term developmental goals of the member countries, particularly given that the agreement is passive on development projects in the region (see, for example, the Preamble of the AfCFTA).

2. Theory of regional integration and its relevance for Africa

On theoretical grounds, Venables (2003) provides a different proposition to the benefits and costs of regional integration by pointing out that the distribution of the benefits and costs depends on the comparative advantage of members relative to each other, and relative to the rest of the world. This indicates that economic integration between low-income countries tends to lead to divergence of member countries' incomes, while agreements between high-income countries cause income convergence. The

relevance of this argument to Africa is that several regional agreements in the continent, including the Africa Continental Free Trade Agreement (AfCFTA), are generally formed between low-income countries.

Considering the above arguments, the differences in the AfCFTA countries' comparative advantage are expected to affect the benefits arising from the free trade agreement. As an example of polarised development in Africa, there tends to be a continuing inequality in terms of infrastructure, economic size, and level of development between South Africa and the rest of the countries on the continent. On the issue of this polarised development, evidence from Ahwireng-Obeng and McGowan (1998) insinuates that South Africa can be thought of as the 'North' and other Sub-Saharan African countries as the 'South'. In this context, the historic dominance and level of development of South Africa are likely to exacerbate polarised development at the cost of smaller and less developed countries in the region, which is an argument raised by McCarthy (1999).

It should be noted that some of the above-mentioned disparities in African trade mainly stem from variations in economic size and the degree of industrialisation within the Sub-Saharan African economies. Consequently, the polarisation arising from a more industrialised economy, South Africa, and predominantly agricultural trade partners, places South Africa at a greater advantage in regional integration. Such polarisation could effectively create a bias in the gains from trade towards South Africa making the country occupy a more hegemonic position relative to other regional trading partners (Alden and Le Pere, 2009; McCarthy, 1994; McCarthy 1999).

Despite the reality of polarised development, in one of the studies conducted after the signing of the AfCFTA in 2018, it has been shown that if African countries trade with themselves, they could exchange more manufactured and processed goods, and create more value (Songwe, 2019). This suggests that the AfCFTA could be considered as an opportunity to improve intra-regional trade activities, which could benefit the member countries since trade is one of the drivers of economic growth. Nevertheless, with the growing and differing views on the possible effects of the AfCFTA, it is critical to set out the modalities and recommendations for the better functioning of this continental free trade agreement.

3. The origins, prospects and challenges of the AfCFTA

The AfCFTA and other regional arrangements in Africa

Regional integration has become one of the distinguishing characteristics of world economies, particularly in the post-World War II period. In Africa, several regional groupings are recognised by the Africa Union (AU), but none of these aims at achieving continental integration, except for the AfCFTA. The African Continental Free Trade Area (AfCFTA) is a product of the 2018 Kigali negotiations, which resulted in the signing of the agreement by most African countries (Abrego et al., 2020). Among other objectives, the AfCFTA was formed with the intent to decolonise the African continent from the global trade system. The global trade system at times can become highly volatile, with trade wars and economic slowdown in major economies causing the African economies to develop their own trade system (Obeng-Odoom, 2020).

While the AfCFTA aims at facilitating of movement of goods and services among African countries, the easing of tariff barriers will be implanted in a staggered way in which 90% of the tariff lines will be abolished within less than ten years for the least developed countries. The agreement also aims to abolish 7% of the tariff lines over ten to fifteen years for sensitive products; and permanent protection on the remaining 3% of the tariff lines (Songwe, 2019).

With the implementation of the AfCFTA, some of the perceived benefits from the agreement include improved intra-African trade, enhanced global economic impact, and the opportunity for member countries to develop better policy frameworks. One of the supportive aspects of the AfCFTA is that Article 19(2) of the Agreement allows members of other regional economic associations to continue with

levels of integration achieved among themselves before the ratification of the AfCFTA. However, despite the ratification of the AfCFTA and its perceived benefits, this agreement does not adequately make provision for other policies that could make African economies bridge the developmental gaps that exist among them.

As alluded to earlier in this paper, there are dilemmas surrounding African integration, one of which is the prevalence of polarised development as witnessed by a growing economic gap among the countries in the region. Because of this polarised development, some economies in Africa tend to benefit more from trade and investment activities relative to others (McCarthy, 1999; Mayer, 1998; Pallotti, 2004). One of the solutions to mitigate unequal benefits arising from African trade, as suggested by Aniche (2014), would be to foster a private-sector-led rather than a state-driven integration.

Apart from polarised development, the other dilemma facing the implementation of the African Continental Free Continental Trade Area (AfCFTA) arises from overlapping membership, in which several countries in the continent belong to various regional arrangements. Due to the overlapping membership, which is sometimes referred to as the 'spaghetti bowl', it becomes difficult to achieve the negotiation of the modalities for the continental free trade area. Consequently, member commitments across different sectors become problematic (Simo, 2020). Table 1 presents the current composition of regional arrangements in Africa.

Table 1: Country composition of regional arrangements in Africa (2023)

Regional arrangement	Member countries
AMU	Algeria, Libya, Mauritania, Morocco, and Tunisia
CEMAC	Central African Republic, Cameroon, Chad, Republic of Congo, Gabon, and Equatorial Guinea
CENSAD	Benin, Burkina Faso, Central African Republic, Chad, Comoros, Côte d'Ivoire, Djibouti, Egypt, Eritrea, The Gambia, Ghana, Guinea-Bissau, Libya, Mali, Mauritania, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somalia, Sudan, Togo, and Tunisia
COMESA	Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt, Eritrea, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia, and Zimbabwe
EAC	Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda
ECCAS	Angola, Burundi, Central African Republic, Cameroon, Chad, Democratic Republic of Congo, Republic of Congo, Gabon, Equatorial Guinea, Rwanda, and São Tomé and Príncipe
ECOWAS	Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo
IGAD	Djibouti, Eritrea, Ethiopia, Kenya, Somalia, South Sudan, Sudan, and Uganda.
SACU	Botswana, eSwatini, Lesotho, Namibia, South Africa
SADC	Angola, Botswana, Comoros, Democratic Republic of Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Tanzania, South Africa, Zambia, and Zimbabwe
WAEMU	Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo

Source: IMF (2023).

Note: Arab Maghreb Union (AMU); Central African Economic and Monetary Community (CEMAC)

Community of Sahel-Saharan States (CENSAD); Common Market for Eastern and Southern Africa (COMESA); East African Community (EAC); Economic Community of Central African States (ECCAS); Economic Community of West African States (ECOWAS); Intergovernmental Authority on Development (IGAD); Southern African Customs Union (SACU); Southern African Development Community (SADC); West African Economic and Monetary Union (WAEMU).

Prospects of the AfCFTA implementation

The importance of regional trade agreements, including free trade agreements, has been emphasised by Harrison et al. (2002) who maintain that regional trade agreements provide market access, which consequently helps to overcome trade diversion costs. In a study based in North Africa, Dennis (2006) indicates that one of the benefits of regional trade agreements is that they can improve trade facilitation, which in turn could lead to welfare gains for the countries involved in the agreement. Moreover, in a study assessing the impact of regional agreements on members' trade in sub-Saharan Africa, Carrère (2004) concluded that African regional trade agreements have generated a significant increase in trade between member countries.

In assessing the prospects of the AfCFTA, one of the key factors to be considered is the issue of economic relationships between the trading partners, which are underscored by the vast differences between the member countries. Consequently, the existing differences in countries' production and cost structure could affect the prospects of African integration either positively or negatively depending on the overall net effect of the Agreement.

On the positive side, one of the prospects of the AfCFTA is that it affords member countries an equal opportunity to benefit from economies of scale and to access locally sourced raw material and intermediate inputs at a relatively cheaper cost (Onwuka and Udegbonam, 2019). The AfCFTA can thus be regarded as offering some sensible relief to African economies that have for a considerable period been subjected to unfavourable trade rules established in the multilateral organisations including the World Trade Organisation (WTO).

For instance, Jensen and Gibbon (2007) maintain that the agenda of the WTO Development Round held at Doha in 2001 was dominated by topics and proposals of little relevance and at times threatening for some groups of developing countries, particularly those in sub-Saharan Africa. Likewise, Ya'u (2004) argues that to the detriment of several developing economies, some of the WTO's policy initiatives including the General Agreement on Trade in Services (GATS) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) work in the interest of multinational corporations making Africa face the challenge of imperialism anew.

Another prospect related to the AfCFTA is that creating one enlarged market could allow member countries to harmonise regional trade policies and in so doing, facilitate equal competition (Aniche, 2018). Historically, several African economies have been relying on the European Union (EU) as their major trading partner. Under the different trade concessions including the Lomé Convention, the Cotonou Agreement and most recently, the Everything But Arms initiative (EBA), selected products from qualifying African economies could enter the EU market duty-free.

Nonetheless, trade relations between the EU and Africa tend to be complicated, and the EU's assistance to Africa is exceedingly restrictive in some respects (Nowak, 2017). This goes to show that the AfCFTA comes at the right time for many African economies, especially in the post-recession period, which has led to a global slowdown. In particular, the recent slowdown in some of the major global trading markets presents challenges to African countries that depend largely on merchandise trade,

particularly the exports and imports of manufactured products, food, ores and metals, to mention a few principal products.

Different episodes of the global meltdown, including the 2008/09 recession, have resulted in African countries facing reduced demand for their exports. With the dwindling demand for African exports, there have been slow rates of economic growth recorded in some countries in the region, especially considering their heavy dependence on commodity exports (see for example, Republic of South Africa, 1998). Therefore, with the provisions made by the continental free trade area in place, African countries could be able to mitigate some of the problems associated with declining global demand for exports if these economies could take full advantage of the opportunities afforded by the agreement.

Over and above the above-mentioned prospects of the AfCFTA, the other perceived benefit is that if well implemented, the agreement could facilitate socio-economic development and industrial competitiveness in Africa (Ajibo, 2019). As mentioned earlier, economic and development barriers are among some of the factors that have led to the failure of regional integration in Africa. With such large disparities in the levels of economic development among African countries, the effects of the AfCFTA are bound to be uneven, unless otherwise mitigated beforehand.

The mitigation of the asymmetries in Africa requires member countries to take cognisance of new ways to upgrade capital, infrastructure, technology, and market access with more advanced economies to promote the capabilities of the exporters from the continent. This calls for the creation of various intervention structures that could first target to promote partnerships between government and the private across the member countries in the continent. In addition, the proposed interventions could also aim at eradicating potential barriers to regional growth and development.

Challenges of the AfCFTA implementation

The challenges of the AfCFTA are multifaceted, ranging from economic, political, structural, and institutional factors. On economic challenges, economic inefficiency is inherent in several African economies, which could work against the achievement of the targeted goals of the AfCFTA (Simo, 2020). According to Gordon (2021), economic efficiency refers to an economic situation where there is optimum allocation or distribution of resources with minimum wastage and lesser inefficiency. In some African economies, however, the problem of wastage and excessive fiscal spending is common, rendering economic inefficiencies. A classic example is that of South Africa which is presiding over a stagnant economy and increasing corruption (Southall, 2016); and, in Central Africa, where despite the abundance of natural resources, the ordinary people in this region struggle to make ends meet (Roitman, 2005).

Regarding the structural challenges facing the AfCFTA implementation, poor infrastructure development is key. Some areas in the African continent suffer from an unstable power supply, and lack of access to railways and other forms of transport and communication networks, which could affect the scale and speed of production in domestic industries. If the AfCFTA is aimed at nurturing intra-regional trade, the continent should demonstrate some acceptable level infrastructure of readiness. The other observation is that alongside the challenge of poor infrastructure is the problem of insufficient industrialisation, which could stifle the quality and quantity of the products traded under the Agreement.

Again, the African economies suffer from poor access to finance, which makes the funding of small and medium enterprises quite daunting. Considering the existing regional trade arrangements outside the AfCFTA, very few of them have development finance institutions in place. On the issue of development finance, Te Velde (2011) argues that the presence of development finance institutions accompanying regional economic associations could help minimise regional income disparities and promote regional cohesion.

The last category of challenges discussed in this paper relates to economic efficiency, which can be associated with political and institutional challenges. Due to poor governance and mismanagement of public funds, African economies are prone to high levels of inequality and debt crises. Consequently, the absence of effective political leadership in the continent not only exacerbates the deficiencies in economic governance in Africa but also diverts the focus of intra-African trade policies away from their intended mandate (Okechukwu and Chikata, 2018).

Table 1: Summary of prospects and challenges associated with the implementation of a free trade area in Africa

Factor (Prospect or challenge)	List of related attributes
Market access	A1 Tariff eliminations
Increased trade activities	A2 Reduction in non-tariff barriers
Polarised development	A3 Diversion of imports
Income convergence	A4 Unequal trade and investment opportunities
Comparative advantage	A5 Level of member incomes
Industrialisation	A7 Economic efficiency
Economic development	A6 Relative cost of production
	A8 Degree of Industrialisation
	A9 Poor infrastructure
	A10 Poor access to development finance

Source: Constructed by the author based on the findings from Abrego et al. (2019); Ajibo (2019); Aniche (2018); Carrere (2004); Chien et al. (2022); Chukwu (2022); Dennis (2006); McCarthy (1999); Mayer (1999); Onwuka and Udegbonam (2019); Pallotti (2004); Te Velde (2011).

Considering the above-mentioned factors constituting prospects and challenges that dominate in African economies, there are probable ripple effects that could arise from the key factors that have the potential to drive other factors. Hence, unless the interrelationships among the influential factors are identified and addressed, the focus of the African Continental Free Trade Area would likely be diverted towards solving the domestic crises instead of addressing the intended goals of the AfCFTA. As a result, the current study employs the Interpretive Structural Modelling (ISM) technique to allow the mapping of interrelations between the significant factors associated with the AfCFTA implementation. The ISM analysis is explained in detail in the next section of this paper.

4. The interpretive structural modelling analysis, results and discussion

4.1 Overview of the Interpretive Structural Modelling

This methodological approach of this study is exploratory and employs the Interpretive Structural Modelling (ISM) approach to investigate the various factors associated with the African Continental Free Trade Area and their interrelationships. The variables employed in the study are derived from related literature, some of which have been presented in previous sections of this paper. The ISM method is a contextual analysis that has been widely used to analyse interrelationships in various case studies, although it is common to supply chain management and risk and management studies (for example, see Akenroye et al. 2023; Attri et al., 2013; and Sushil, 2012; Vishnu and Sridharan, 2019). However, interpretive structural modelling can be applied in other disciplines as well.

The advantages of the ISM method are that first, it helps to identify the relationships between the various factors. Second, the ISM method helps to distinguish between the extent of the driving power and dependence power associated with the factors. Third, the ISM method helps to develop a contextual relationship between the factors – whether they are enablers or barriers (Hussain et al., 2016). Over and

above these advantages, in employing the ISM analysis, researchers can identify transitive relationships underlying the variables of investigation.

In the case of the current study, the variables of analysis were identified as follows: based on the findings from related literature, the study identifies the prospects and challenges associated with the AfCFTA, and thereafter, categorises the related factors into ten attributes (A1 – A10) as presented in Table 1. Some of these factors, as will later be discussed in the study findings, have more driving power while others possess higher dependence power. Therefore, the analysis and findings from this study are expected to help to determine which factors are critical to the continental free trade area and to identify the underlying characteristics of such factors based on whether they are dominant in dependence power or driving power.

4.2 Key steps in the Interpretive Structural Modelling analysis

Generally, there are eight steps in conducting the Interpretive Structural Modelling (ISM) analysis. These steps start with conducting the expert survey or using the literature review to identify the possible factors and to establish how the factors are related to one another. Thereafter, establish a contextual relationship between the factors, whether they drive another factor, depend on another factor or if there is a feedback relationship. From the contextual relationship, the next step is to develop a structural self-interaction matrix, which can be presented using four letters X, V, A and O.

The letter X represents a reciprocal relationship in which a row element and a corresponding column element influence each other, whereas the letter O indicates a situation in which a row element and a corresponding column element have no relationship. In contrast, letter V indicates cases where the row element influences the corresponding column element, while letter A represents a situation where a row element is influenced by the corresponding column element. Thus, letters V and A represent cases where the relation between the row and column elements is in one direction as opposed to both directions (Sushil, 2012). The letters X, O, V and A are then presented in a self-interaction matrix as shown in Table 2.

Table 2: Structural Self-Interaction Matrix

Attributes	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
A1	X	V	V	A	O	O	A	O	O	O
A2		X	V	A	O	O	A	O	O	O
A3			X	A	A	A	A	A	A	A
A4				X	X	X	A	A	A	X
A5					X	V	V	X	V	A
A6						X	V	V	A	A
A7							X	X	A	A
A8								X	X	A
A9									X	A
A10										X

Source: Constructed by the author

In the next step, using a binary scale, the structural self-interaction matrix in Table 2 is transformed into an initial reachability matrix in which letters X, V and A are substituted with a numeric value 1 while letter O is replaced with 0. Such a transformation leads to the initial reachability matrix. Thereafter, following logical transitivity checks on the initial reachability matrix, the final reachability matrix is obtained from which level partitioning can be determined. Table 3 shows the resulting reachability matrix.

Table 3: Final Reachability Matrix

Attributes	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	Driving power
A1	1	1	1	0	0	0	0	0	0	0	3
A2	0	1	1	0	0	0	0	0	0	0	2
A3	0	0	1	0	0	0	0	0	0	0	1
A4	1	1	1	1	1	1	0	0	0	1	7
A5	0	0	1	0	1	1	1	1	1	0	6
A6	0	0	1	0	0	1	1	1	0	0	4
A7	1	1	1	1	0	0	1	1	0	0	6
A8	0	0	1	1	1	1	1	1	1	0	7
A9	0	0	1	1	0	1	1	1	1	0	6
A10	0	0	1	1	1	1	1	1	1	1	8
Dependence power	3	4	10	5	4	6	6	6	4	2	

Source: Constructed by the author

Moving from the reachability matrix, the level partition is carried out using the reachability and antecedent sets for each element. As described by Sushil (2012), for a given element, the reachability set represents all the elements on the same level that can be reached by the element itself; whereas the antecedent set for a given top element shows all elements that may reach it from lower levels, including any element of a strongly connected subset at the top level. The intersection set, on the other hand, contains all elements that are present in both the reachability set and antecedent sets at a given level. Table 4 presents the level partitioning derived from the reachability matrix of the current study.

Table 4 Partitioning the reachability matrix into different levels

Attribute	Reachability set	Antecedent set	Intersection set	Iteration no. and level
A1	1,2,3	1,4,7	1	III
A2	2,3	1,2,4,7	7	II
A3	3	3	3	I
A4	1,2,3,4,5,6,10	4,7,8,9,10	4,10	VII
A5	3,5,6,7,8,9	4,5,8,10	5,8	VI
A6	3,6,7,8	4,5,6,9,10	6	V
A7	1,2,3,7,8	5,6,7,8,9,10	7,8	IV
A8	3,4,5,7,8,9	5,6,7,8,9,10	5,7,8,9	VIII
A9	3,4,6,7,8,9	5,8,9,10	8,9	VIII
A10	3,4,5,6,7,8,9,10	4,10	4,10	VII

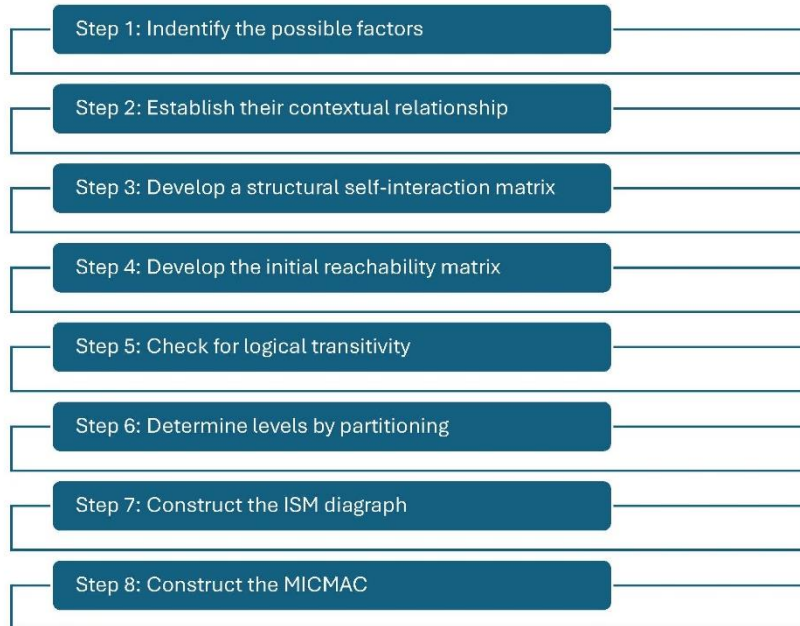
Source: Constructed by the author

The level partitioning and iteration numbers shown in Table 4 are determined as follows: at the very first top level, that is, Level I, the reachability set, and the intersection set contain the same elements. To move to Level II, the elements identified in Level I are removed, and the reachability set, and intersection set are checked again. Then remove the elements identified in Level II and proceed to Level III. The process is repeated until all the levels have been determined. A total of eight levels is identified for the current study as indicated in Table 4.

From the level partitioning presented in Table 4, a diagram is developed, which is essentially the interactive structural model. In the diagram, the various elements are presented according to their levels

and links between the interrelationships. Thereafter, an additional step in ISM analysis involves the construction of the cross-impact multiplication applied to classification, which is known as MICMAC. Figure 1 provides a summary of the key steps for the interpretive structural modelling analysis.

Figure 1: Steps in the ISM methodology



Source: Adapted from Akenroye *et al.* (2023)

4.3 Data analysis and discussion of the results

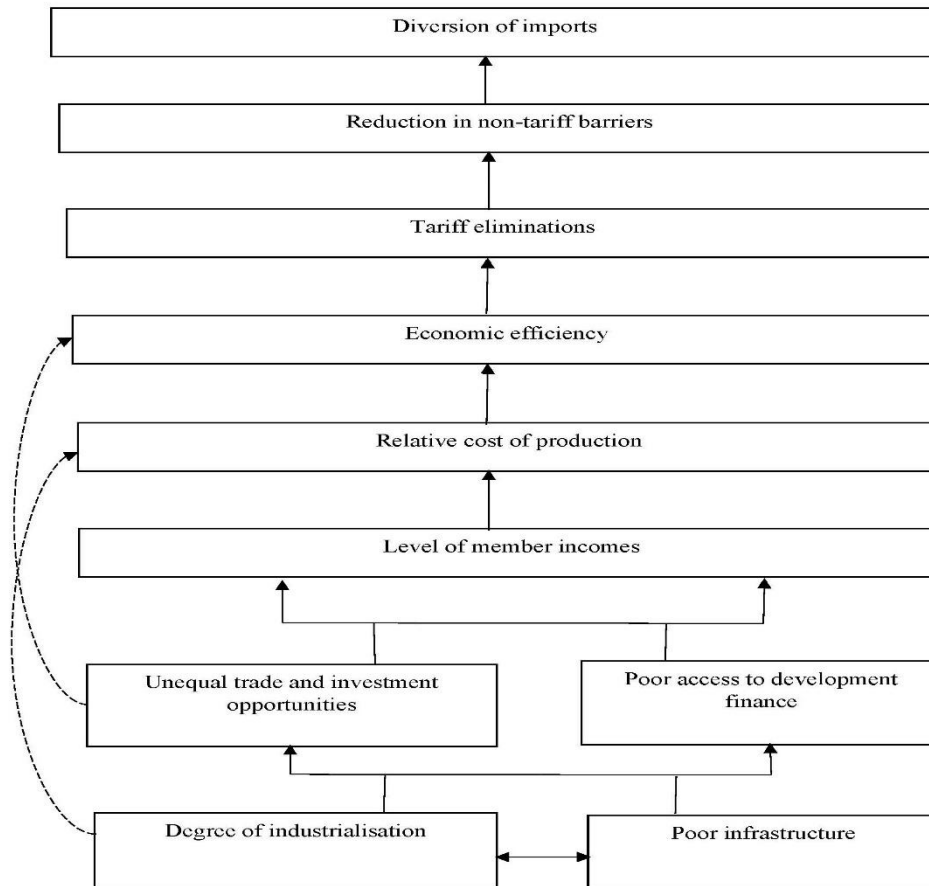
The Interpretive Structural Modelling (ISM) diagram, presented in Figure 2, is constructed from information in the final reachability matrix (Table 3) and level partitioning (Table 4). From the ISM diagram, it can be deduced that the factor with the highest dependence power is the diversion of imports, which indicates that it has a greater potential to be affected by other factors that lie below it on the diagram. In addition, the next variables with higher dependence power are reduction in non-tariff barriers and tariff elimination, which rank at second and third-level partitioning respectively. All the top three factors with the highest dependence power are trade related.

Alternatively, from the list of factors identified in the analysis, factors with the highest driving power, in the order of their potential, are the degree of industrialisation, poor infrastructure, unequal trade and investment opportunities, poor access to development finance, and degree of industrialisation. Compared with other variables in the list, these four factors are structural in nature and comprise external and internal components. For instance, while the degree of industrialisation, poor infrastructure, and poor access to development finance represent internal factors, unequal trade and investment opportunities constitute external factors.

Factors with a higher driving power have a greater potential to create a ripple effect on other factors, which makes it critical for member countries of the African Continental Free Trade Area (AfCFTA) to first identify mitigating strategies that address these factors. In resolving the challenges that are associated with factors possessing higher driving power, positive outcomes resulting from the continental free trade

agreement could be realised. For instance, improvements in industrialisation and infrastructure capacity in the region could enhance trade and investment opportunities from external investors to other Sub-Saharan African countries other than those that currently have a greater advantage, for example, South Africa. The need for Sub-Saharan Africa to achieve structural transformation through industrialisation is crucial (Lopes and Te Velde, 2021).

Figure 2: Interpretive structural model of prospects and challenges in the AfCFTA



Source: Constructed by the author

In explaining Figure 2 further, it should be noted that apart from the directed links coming from the driving factors, other links show the indirect impact of these driving factors on other related factors. For example, the degree of industrialisation has an indirect effect on the cost of production whereas unequal trade and investment opportunities have an indirect effect on economic efficiency. Therefore, equally important in the analysis are such indirect relationships since they indicate a further ripple effect arising from the driving factors.

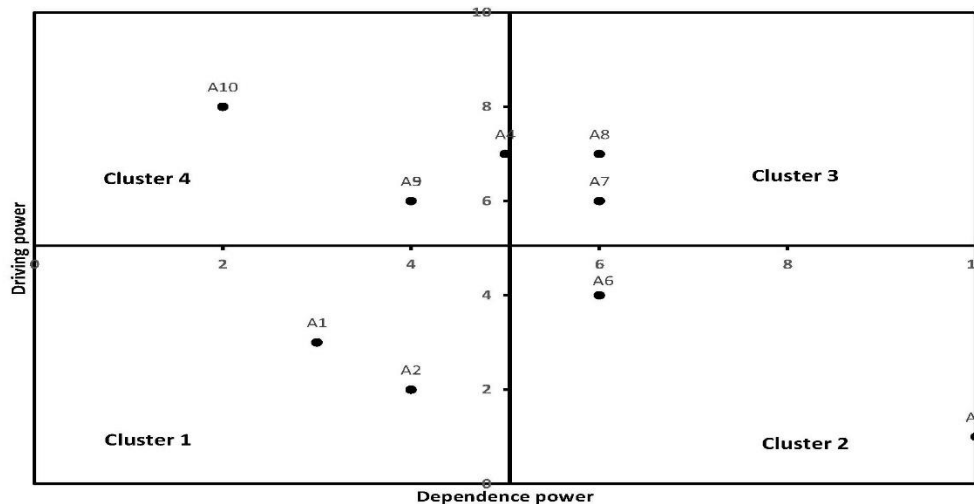
Taking a step further after the construction of the ISM diagram, information from the final reachability matrix is used to create a cluster of factors according to their driving or dependence power. This leads to a cluster plot known as the MICMAC analysis, which is made up of four categories of clusters as shown in Figure 3. The first cluster in the diagram is *Cluster 1*, which is made up of *autonomous*

factors. The elements in this cluster represent insignificant inter-relationships. From the current study, there are two factors comprising autonomous factors, and these are tariff eliminations and reduction in non-tariff barriers. These findings suggest that trade-related factors, namely tariff eliminations and reduction in non-tariff barriers have little, if any effect, on other variables.

There is also *Cluster 2*, which is made up of *dependent* factors. In this category are elements with the highest dependence power and lower driving power, which according to Figure 2 are the diversion of imports, and the relative cost of production. These factors underscore the differences in comparative advantage among the member countries. From the results, it can be deduced that the diversion of imports and the relative cost of production are highly dependent on other factors both through direct and indirect linkages. For instance, the dotted arrows in Figure 2 show that the cost of production is indirectly dependent on the degree of industrialisation whereas economic efficiency is indirectly driven by unequal trade and investment opportunities.

Cluster 3 is made up of *linked* factors, and these are factors that have both high dependence power and high driving power. The level of member incomes, economic efficiency, and degree of industrialisation fall under this category. Last in the classification is *Cluster 4*, which comprises *independent* factors with the highest driving power and low dependence power. As indicated in Figure 3, the variables that exhibit the highest driving power in comparison to other variables in the analysis are unequal trade and investment opportunities, poor infrastructure, and poor access to development finance. These factors, therefore, are most critical in bringing structural transformation through the AfCFTA and need to be addressed properly. Presumably, leaving these factors unattended could exacerbate the state of polarised development associated with the Sub-Saharan Africa region.

Figure 3: MICMAC clustering of factors associated with the AfCFTA



Source: Constructed by the author based on information in Table 3 of this paper

Based on the overall findings of this study, a key recommendation alongside that raised in the recent study by IMF (2023) is that there is a need to make infrastructure development and access to development finance a priority for Africa's integration agenda, including the AfCFTA deliberations. It is more likely that the provision of ample access to development finance aimed at tackling some of the critical areas in African integration could gradually reduce the challenge of unequal trade and investment opportunities.

Over time, such provision of development finance, if efficiently implemented, could increase the odds of achieving the structural transformation in Africa through the AfCFTA.

In a nutshell, despite the potential challenges facing the implementation of the African Continental Free Trade Area (AfCFTA), this agreement intends to offer solace to African economies, some of which have been subjected to complex conditions experienced through the global trade system. Thus, with the implementation of the AfCFTA, African economies are expected to gain from economies of scale and improved intra-regional trade activities. The potential benefits of AfCFTA have been highlighted by various studies, some of which are discussed in the introduction and the literature review sections of this paper.

5. Conclusion

This paper uses Interpretive Structural Modelling (ISM) to explore the prospects and challenges of achieving structural transformation in Africa through the African Free Trade Area (AfCFTA). Following the commencement of trading under the AfCFTA in January 2021, concerns about the prospects and challenges of a Free Trade Area, particularly given the existing inequalities among the member countries, have mounted. While the AfCFTA presents new opportunities for improving intra-regional trade and probably economic livelihoods in the region, the realisation of its mandate requires that the well-known underlying challenges be dealt with.

Among the various challenges associated with African trade is the issue of polarised development, which presents unequal opportunities across various trading partners. From the literature, the problem of polarised development is related to a myriad of other factors including degree of industrialisation, level of member incomes, economic efficiency, and variations in infrastructure development. Hence, the African Continental Free Trade Area could improve the situation of polarised development if appropriate measures are put in place without delay during the infancy stage of the agreement.

The key findings from this study indicate that the factors needing greater priority due to their having the highest driving power over other variables are unequal trade and investment opportunities, poor infrastructure, poor access to development finance, and the degree of industrialisation. Based on the overall findings, this paper recommends that the Sub-Saharan African countries develop a platform within the AfCFTA for bringing a speedy resolution to these key challenges. Within that platform, the AfCFTA members could deliberate issues around polarised development to ascertain the causes of differences between the member countries, and to identify the mitigating strategies that could be implemented in the short term and long term to improve industrialisation, infrastructure development, and economic efficiency.

A further observation from the current study is that while the AfCFTA agreement makes provision for the free movement of goods produced within the continent, it does not explicitly accommodate other policies that address critical issues such as those dealing with development finance interventions. This study, therefore, recommends that the AfCFTA members identify opportunities for establishing regional development finance interventions, and ensure that such interventions are spread across the various parts of the continent. Fundamentally, it would be rational to decide on the number of development finance institutions that need to be established within Africa and to determine their geographic location upfront while the AfCFTA agreement is still in its early development.

To conclude, it is equally crucial for African leaders to exhibit some form of responsible and accountable leadership so that the economic efficiency necessary to boost the AfCFTA implementation can be realised without having to divert the resources towards resolving some social or political conflict that could have otherwise been avoided.

While the findings of the present study provide useful insights that could inform policymakers and future research, Interpretive Structural Modelling (ISM), which is the method of analysis used in this study, is not free of limitations. One limitation is that the ISM approach does not provide a thorough empirical analysis of the investigated variables like other estimation techniques. That is because, with the ISM technique, a researcher mainly studies contextual relationships in an interpretive manner that involves the driving power or dependence power of the factors under investigation. Future studies can employ other analytical and empirical techniques, for example, structural equation modelling, to investigate the interrelationships in the African Continental Free Trade Area (AfCFTA).

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