

Leveraging On Language Powered Artificial Intelligence for Sustainable Regional Economic Communities: A Reflection on ECOWAS

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Abstract

In the past few decades, African Neo-colonial inhibitions have become a daunting challenge to her quest for global sustainability. Specifically, the Economic Community of West African States (ECOWAS) has advanced concerted efforts over the years, to achieve horizontal integration among her regional economic communities (REC), in the face of a stiff unequal vertical precipice with other developed countries of the world. This study explores the use of language powered artificial intelligence (AI) in advancing economic sustainability among member states, taking clues from China's AI assisted reforms in education, industrialization and trade; fronting her as a formidable force in global sustainability. The study adopts an eclectic methodology of description in qualitative terms from related literature and use of quantitative data to support the study, from China's Bureau of Statistics. Findings show that AI can be a great facilitator in advancing horizontal integration among ECOWAS states, and a panacea for her unequal vertical 'clime'; to facilitate her sustainable development among Africa and other nations of the world.

Keywords: *Language, Artificial Intelligence, ECOWAS, Industrialization, Trade and Global Sustainability.*

INTRODUCTION

The economic community of West African States ECOWAS, consisting of fifteen member states was formed in 1975, with a consciously articulated vision among the regional economic communities (REC) to achieve regional cooperation and pool resources together to enhance their bargaining power on the global scene (vertical integration). Additionally, the commission was established to address shared challenges (horizontal integration) within the African region- such as poverty, insecurities, linguistic diversity and underdevelopment. (Olowu, 2020; Aning & Edu -Afful, 2016; Murithi, 2015; Aning, 2005; Nweke, 2007).

Among these concerns, little attention has been given to the area of language differences within the African states, which has overtly impeded various reforms of ECOWAS, in line with the African vision of unity and regional sustainability (Adebajo, 2002).

The fragmentation of African economies in recent times, comprising of the Anglophone, Francophone and Lusophone countries of West Africa, artificially separated by colonialism and ethnicism; have been of grave concern to Africa (Asante, 2016; Uwazie, 2020). These language affiliations, borne out of colonial influences have resulted in a linguistic bloc that has impeded sustainable collaboration, policy reforms and collective actions among ECOWAS states (Chumbow, 2005). Although linguistic diversity can enforce solidarity and cooperation among regional states, it has negative impacts for policy development and conflict resolution,

as language differences can breed mistrust and suspicion among member states (Zartman, 2001).

In the past few decades, scientific and technological innovations, targeted at global sustainability have evolved, to measure up with the trajectories and challenges of our contemporary times and one of such innovations is the use of artificial intelligence(AI) in virtually every facet of human endeavor – ranging from trade, manufacturing, education, security, multilingualism, health and others.

Artificial intelligence has been defined as ‘the simulation of human intelligence processes by machines, especially computer systems’. It has the multitasking abilities of learning, problem-solving, decision-making, understanding natural language, recognizing and translating language patterns (Robinson, 2018; Frankish and Ramsey 2014).

Language is an indispensable tool for effective communication. Fromkin, Rodman, & Hymas (2013) define language as an arbitrary vocal system of communication, used among members of a speech community. Language in form of words, is the resource with which artificial intelligence thrives, and artificial intelligence serves as the interface for the codification and transformation of data from the brain (Solowski, 1988). Language is crucial for effective communication and bridging the gap of linguistic diversity in institutions - such as ECOWAS - for unified regional operations, and AI provides a viable resource for this goal (Bamgbose, 2011). It is therefore imperative to setup an institutional framework among the REC, that promotes multilingualism and inclusive language policies that mitigate linguistic diversity, and aid decision making (Kamwangamalu, 2016).

Strategic alliance on vital developmental issues, such as policy making, becomes easier among states with similar cultural and linguistic background. In the case of ECOWAS, it may be difficult to adopt a common language among the over two thousand languages in the region. However, some scholars have suggested languages such as Kiswahili, but acceptance and learning of the key languages of English, French and Portuguese, will go a long way in strengthening the ties of her regional economic state (Ndlovu, 2022). This task is simplified by the innovative technology of artificial intelligence, with its multifarious applications that aid language teaching and learning in vital fields of education, trade and industries and other aspects of economic development. (Chumbow, 2005; Bamgbose, 2011)

Ayeni (2017) addresses the problem of linguistic diversity in these words: ‘Given that linguistics divide - particularly between Anglophone, Francophone and Lusophone states-[sic] hinder policy coordination and decision making, ECOWAS and the African Union (AU) should prioritize the adoption of inclusive multilingual policies, because ‘the struggle for independence was not merely a political fight to free Africans from colonial rule but was also a struggle to preserve African identity, cultural integration, and self- affirmation’.

Similarly, Ayeni & Ellah (2025) opine the use of indigenous lingua franca, such as Hausa, Yoruba and Swahili to bridge linguistic gaps among regional states. Additionally, it was suggested that translation and interpretation services be procured to achieve seamless communication among member states. This is where the use of artificial intelligence becomes vital, instead of procuring translation and interpretation services.

AI language translation can break down language barriers by translating languages, identifying patterns in translated texts and employing neural networks in understanding the contextual meaning of words. The application of the neural machine translation (NMT) is

empowered to translate sentences in language, which makes learning faster than when language learning is dependent on individual learning experiences (Zhang & Duan, 2021).

Another A1 application that can facilitate language learning is the conversational practice, where the learner converses, using A1 chat bots to create real life conversations, facilitating speech and right pronunciation in the target language (Yu et al, 2012)

Similarly, applications like Hello Talk, Talk pal and others, engage the learner in a tutorial session with AI assistants, who offer virtual language teaching. Other AI language learning applications include game learning platforms which makes learning, a fun and enjoyable experience (Guzman & Lewis, 2020).

The Chinese economy has made giant strides in AI related research, to boost her economic growth and national development. Extracts from the Chinese Bureau of Statistics (2024) show the progressive trend of developmental initiatives achieved by the Chinese economy, projecting her as a key global player in artificial intelligence and sustainability. This study advocates taking a clue from Chinese ingenuity in AI, among the Anglophone, Francophone and Lusophone member states of ECOWAS, for a better understanding and execution of mutual goals; truncating linguistic barriers and integrating linguistic synergy for better operations and results.

The study proffers these innovations in facilitating the operations of ECOWAS, especially in the area of capacity building- through education- industrialization and trade, using A1 language reforms as a medium of communication (National Bureau of Statistics of China, 2014). These reforms are achieved through virtual assisted applications, automated language translations and the smart system which have made education and industrialization in China, less complex and more productive (Makridakis, 2017; Jiang et al, 2022; Fingelkurts & Fingelkurts, 2004). Prominent Chinese technological giants, such as Baidu and Alibaba have created smart customer service solutions that manage global value chains (GVCs) and make predictions on future trends and risks management in business operations (Hohenstein et al, 2023; Nwachukwu et al, 2021).

Additionally, the artificial intelligence driven education in China is one of the viable areas of capacity building which has become a positive landmark in Chinese education. (Yu et al, 2021). Some of these A1 innovations can be leveraged on, in improving operations in Africa and creating the enabling environment to keep up with future trends. (Ogunkola & Bankole, 2021).

Ultimately, the study prioritizes the use of AI driven language skills in improving two areas of regional development – **capacity building** through education and **trade/industrialization**- for horizontal integration and economic sustainability among ECOWAS states. It further projects the relationship between artificial intelligence and language among regional states of West Africa, since better understanding is achieved when collaborators speak in ‘one voice and mind’, devoid of ethnic bias in articulating and executing communal goals. Additionally, it asserts that regional integration is possible when players learn and appreciate the language of one another, for better deliberation and understanding, which ultimately impacts on global development and sustainability. Extant literature reveal that though a significant number of research have been done on the prospects of artificial intelligence in various fields of endeavour, not much studies have focused on the utilization of artificial intelligence in capacity building and trade liberalization ,which are key indices in most African institutions, such as ECOWAS. This is the lacuna that the study tries to fill.

Research Questions

The following research questions are pertinent to the study:

- 1) What are some of the major objectives of ECOWAS?
- 2) What are the language-based AI research innovations of the Chinese economy, that can be applied in achieving these objectives?
- 3) What are the inherent challenges in achieving these objectives?
- 4) What are the possible solutions to these challenges?

METHODOLOGY

The study adopts a descriptive qualitative methodology, using relevant journal articles, with supporting statistical (quantitative) instances from the Bureau of Statistics and the Ministry of Education, China; to buttress the area of research interest. The choice of the Chinese economy as the sample is deliberate, because of her proven innovative ingenuity in the area of artificial intelligence in virtually every aspect of her national growth.

Among the challenges of ECOWAS, the study prioritizes on the problem of linguistic diversity as the scope of study. The study examines the use of AI driven language technology in improving the key areas of education and trading, targeted for capacity building and horizontal integration respectively, taking clues from the United Nations interview with Dr Omar A. Touray, a major stakeholder in the ECOWAS Commission, in 2025.

RESULTS

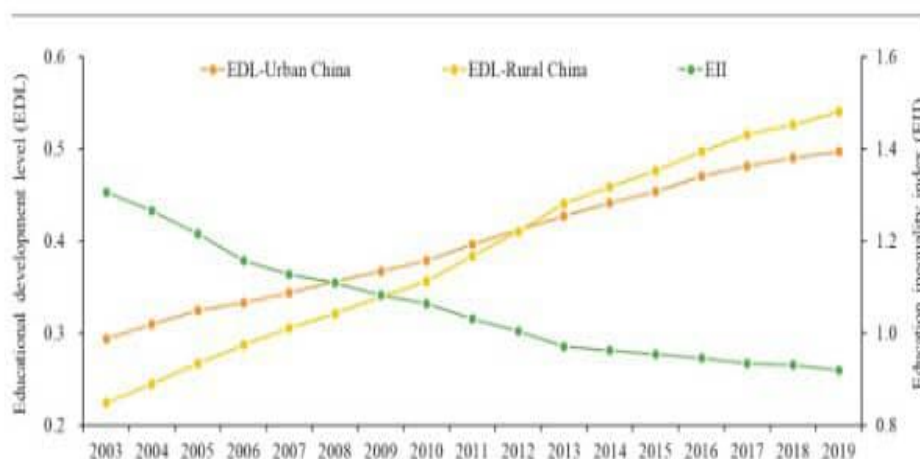


Figure 1: Educational developmental level (EDL) in China in the urban / rural areas and the Educational Inequality index (EII) from 2003 to 2019

(Culled from the National bureau of Statistics of China, 2025).

The above figure demonstrates Chinese ability to allocate equitable educational resources to both her urban and rural areas, resulting in urban and rural educational development. The Chinese proactive reforms of 1978 in key sectors of the economy, including education, trade and industrialization paid off in the significant progression of her educational system. From the above statistical figures, urban -rural relationship in educational resources, improved from

2003 to 2019, with an increase in urban and rural EDL; and an average growth rates of 3.32% and 5.6 % respectively.

Accordingly, EII which was higher before 2003, recorded an average annual decline of 2.17percent between 2003 and 2019. These strides in Chinese educational sector were achieved through strategic educational reforms that promote digital education and sensitization, using AI- assisted technologies. These initiatives have positively impacted on her educational development and grossly reduced the serious imbalance in urban and rural quality educational resource, ultimately recording a rapid growth rate of per capital GDP, to enhance the pace of industrialization in China. This trend in digital education has been sustained till date, judging from statistics from the Ministry of Education of the People's Republic of China in 2025, that 'the country boasted 3,074 higher educational institutions in 2023, 61 more than 2022, adding that China's gross educational enrollment ratio in higher education reached 60.2 percent in 2023, up to 0.6 percent in 2022(Ministry of Education, PRC).

Table 3: Output of Major Industrial Products and Growth Rates of the Industrial Enterprises above the Designated Size in 2024^[22]

Product	Unit	Output	Increase over 2023 (%)
Yarn	10000 tons	2277.9	1.3
Cloth	100 million meters	306.3	2.2
Chemical fiber	10000 tons	7910.8	9.7
Refined sugar (final product)	10000 tons	1498.6	17.0
Cigarettes	100 million	24654.6	0.9
Color TV sets	10000	20745.4	4.6
Household refrigerators	10000	10395.7	8.3
Air conditioners	10000	26598.4	9.7
Crude steel	10000 tons	100509.1	-1.7
Rolled steel ^[23]	10000 tons	139967.4	1.1
Ten kinds of nonferrous metals	10000 tons	7918.8	4.3
Of which: Refined copper (copper)	10000 tons	1364.4	4.1
Aluminum electrolyze	10000 tons	4400.5	4.6
Cement	100 million tons	18.3	-9.5
Sulfuric acid (100%)	10000 tons	10369.9	6.9
Caustic soda (100%)	10000 tons	4365.7	5.5
Ethylene	10000 tons	3493.4	0.7
Chemical fertilizer (100 percent equivalent)	10000 tons	6006.1	8.5
Power generation equipment	10000 kilowatts	28433.9	16.0
Motor vehicles	10000	3155.9	4.8
Of which: New energy vehicles	10000	1316.8	38.7
Integrated circuits	100 million pieces	4514.2	22.2
Mobile telephones	10000	166952.9	7.8
Micro computer equipment	10000	33912.9	2.7
Industrial robots	10000 sets	55.6	14.2
Ultra-clear glass for solar industry	10000 square meters	287884.5	53.5
Charging piles	10000	469.7	58.7
Smart watches	10000	8095.4	5.4
Virtual reality devices	10000	836.6	59.4

Figure 2: Major industrial growth of China

(Culled from reports of the National Bureau of Statistics of China 2025)

The above table shows the major industrial activities of China, ranging from sales of staple food like yam, sugar, chemicals, electronics, and raw materials such as crude steel and others. Most importantly, is Chinese investment in virtual reality devices, which are essentially AI assisted technologies representing 59.45%, in addition to 4.8% investment in industrial robots. This record shows that China's visible and stable economic growth is heavily dependent on virtual and artificial intelligence-driven processes, which are made possible through

language applications and technological innovations that impact positively in her manufacturing and trading activities, within and outside China.

Table 13: Imports and Exports of Goods with Major Countries and Regions, Growth Rates and Proportions in 2024

Country or region	Exports (100 million yuan)	Increase over 2023 (%)	Proportion of the total (%)	Imports (100 million yuan)	Increase over 2023 (%)	Proportion of the total (%)
ASEAN	41736	13.4	16.4	28163	3.2	15.3
European Union	36751	4.3	14.4	19164	-3.3	10.4
United States	37337	6.1	14.7	11641	1.2	6.3
Republic of Korea	10415	-0.5	4.1	12931	13.6	7.0
Hong Kong, China	20719	7.3	8.1	1321	37.8	0.7
Japan	10816	-2.3	4.2	11119	-1.7	6.0
Taiwan, China	5350	11.0	2.1	15498	10.5	8.4
Russia	8212	5.0	3.2	9198	1.0	5.0
Brazil	5128	23.3	2.0	8258	-4.4	4.5
India	8574	3.6	3.4	1280	-1.7	0.7
South Africa	1552	-6.5	0.6	2180	-3.0	1.2

Figure 3: Chinese collaboration with global economies

(Culled from National Bureau of Statistics of China, 2025)

The above table represents the collaboration between China and other key global players, such as the United States of America, Japan, the European Union, South Africa, Hong Kong, Taiwan, Russia and others; in the year under review-2024. Statistics show that each of these major players have actively participated in economic activities with China, leveraging on her AI-assisted industrial trajectories. Significant progressive imports and export activities were recorded, inclusive of information transfer, giving a remarkable boost in world trade. This significant sustainable impact can be attributed to the ingenuity of the Chinese economy in artificial intelligence technologies.

Table 14: Total Value of Foreign Direct Investment and the Growth Rates in 2024

Sector	Enterprises	Increase over 2023 (%)	Actually Utilized Value (100 million yuan)	Increase over 2023 (%)
Total	59080	9.9	8263	-27.1
Of which: Agriculture, Forestry, Animal Husbandry and Fishery	374	-10.5	27	-46.0
Manufacturing	3871	6.8	2212	-30.4
Production and Supply of Electricity, Heat Power, Gas and Water	439	-22.7	284	-10.9
Transport, Storage and Post	838	-3.3	112	-25.0
Information Transmission, Software and Information Technology Services	3988	6.0	526	-53.6
Wholesale and Retail	20854	15.8	584	-15.4
Real Estate	612	-10.5	406	-49.9
Leasing and Business Services	11158	4.5	1815	-0.2
Household Services, Repair and Other Services	859	18.3	35	3.6

Figure 4: Value Added investment growth in China

(Culled from the National Bureau of Statistics of China, 2025)

The above table captures the value added and growth rates of Chinese industrial sector, with a significant record of 6.1 % growth in manufacturing, between 2020-2024. China achieved this feat with her investment in agriculture, mining, real estate and more remarkably, software and information technology services which are primarily facilitated by AI assisted language applications, to achieve a progressive economic trend for sustainable development.

FINDINGS

Research Question One: What are some of the major objectives of ECOWAS?

Data from the United Nations interview with Dr Omar Touray, one of the key stakeholders of ECOWAS, on the review of her activities in fifty years, revealed useful insights on the activities of ECOWAS. Specifically, Dr Touray stressed the need for economic sustainability within the ECOWAS states in these words: ‘...We must... invest in the productive sector, especially Agriculture. Africa has no business importing wheat. We have the land, the water, and the people. What we lack is investment, with strong production. We can trade more and better integrate the region’. (UN interview, 2025)

The objectives of ECOWAS are articulated as follows:

Eradicating underdevelopment and boosting low productivity

Underdevelopment is one of the prevalent problems in Africa and specifically, among the regional economic communities. Ayeni (2017) reviews the realities and challenges in Africa, noting underdevelopment as a serious area for attention. Under development in this context, refers to poor and insufficient transport system, obsolete communication facilities, lack of good road networks, poor health facilities, poor quality education, compared to developed nations; low level of technological advancement and poor funding in key and driving areas of economic growth and others.

ECOWAS leadership affirms this problem in the words of Dr Touray: ‘We have the challenges of underdevelopment; low productivity and they are structured challenges facing our economies... We are simply not producing enough to meet the demand of regional trade’.

There is an urgent need to proffer structural adjustments to grapple with the problem of under development, by providing adequate funding for the provision of state- of- the -art public amenities, adequate food production and other needs, comparable to other global nations.

Human development and capacity building through education and language

Taking clues from the Chinese innovations, AI and communicative research have been the major areas of human development. China has greatly invested in extensive research in her institutions, especially in digital sub fields like automated language and social media, machine translation and conversational AI. These AI language applications can be adopted in the educational development resources of ECOWAS states, to ameliorate the problem of linguistic diversity among REC, facilitate policy making, instill trust among the regional states for successful collaboration in educational exchange programs, trade and industrialization, peace -making and securities, among other shared concerns.

Igue (2023) affirms the need for integration and cohesion among the regional economic states for sustainability development, especially in the area of human development. According to ECOWAS records, women and youths form 70-80 percent of her population. This is where good standard of living and quality education become imperative. The ingenuity of African

women and youths need to be maximally harnessed for regional development. Dr Touray noted that Africa has the manpower (people), but lack of a conducive economic environment which has left the majority of her workforce with no option than to seek for better living standard and prosperity in foreign lands.

Investment in Agriculture to meet the demand of regional trade

Food is an essential resource for human existence. Agricultural productivity is important not only for a country's economic stability, but for the security and of its population. (Asante, 2016). The regional economic communities of ECOWAS need to take a leaf from world powers who have gained economic sustainability through agriculture, such as the United States of America, China, Russia and India; who are top growers of agricultural produce (Igue, 2023).

Consequently, African states need to turn to genetically modified seeds to increase their agricultural produce, as well as seek more funding as a collective action among their government, to facilitate agricultural boost for both their citizens and export needs.

Combating insecurity and maintaining peace among ECOWAS regions

Although ECOWAS has invested extensively in this cause, such as the 1999 Protocol on Conflict Prevention and Peace keeping, with institutionalized rights to intervene in the internal affairs of member states to prevent genocides, war crimes and gross human rights violations, more effort are needed to ensure regional stability and security (Uwazie, 2020).

ECOWAS invaluable role and notable achievements, particularly in the area of regional conflict management is in arguably, one of its main accomplishments. For example, peace in the region has been somewhat stabilized with the creation of ECOMOG and the sending of troops to turbulent areas, such as Sierra Leone, Liberia, Guinea and recently, Gambia (Ogunmola, 2022).

ECOWAS has engaged in several peaceful negotiations among member states to maintain peace in the region, yet more concerted efforts are needed in this area. Dr Touray puts it more succinctly that 'the evolving nature of conflict in the region, requires a new approach-one that is collaborative, adaptive and multidimensional'.

Ultimately, the tasks on security and peacekeeping among African states is ongoing and very crucial to ECOWAS.

Trade Liberalization

According to the ECOWAS representative, Dr Omar Touray, 'our intra community trade remains below 20 percent, while in the European Union, for example, it is around 60-70%. To improve, we need to invest in infrastructure and the productive sector...'

There is therefore the need for free movement, for people to trade and engage in other economic activities that will enhance economic sustainability, without inhibitions and unnecessary trade tariffs.

For the study, more attention is directed to the two key objectives of ECOWAS: Capacity building through Education and secondly, the need to trade more and invest in industries. The major question here is: how can artificial intelligence and language - assisted technologies assist in achieving these objectives?

Research question Two: What are the language-based AI research innovations of the Chinese economy that can be applied in achieving these objectives?

Having articulated the main objectives of ECOWAS, the realities and possible areas of improvement; the study examines two key areas of these objectives (**capacity building through education** and **trade**) in relation to the use of language -based AI technologies in the ECOWAS region.

Capacity building through education, using AI assisted technology

Education is a vital area for human advancement and national development. China, for example has built the largest educational system in the world, through her various reforms that have impacted positively in her educational programs and her challenges in bridging urban and rural educational disparities. The Chinese integrative reforms since 1978, has turned China from an educationally disadvantaged economy to a largely literate population (Xiong et al, 2022).

Achieving quality education among the regional states of ECOWAS and in Africa as a whole, need aggressive reforms that will not only sanitize the educational system, encourage training and competitive remunerations among teachers, institute workable policies that will address the challenges in the educational system, as well as an efficient evaluation system, for future adjustments.

Quality education among ECOWAS states will address the problem of language diversity, lack of qualified teachers, poor educational funding, as qualified teachers will attract educational grants through exchange programs from various educational institutions -internal and in diaspora - for more impact on research and economic development (Ukeje, 2016).

Additionally, AI assisted technologies will assist in training teachers and students in the acquisition of multiple languages, especially in the major languages used in the ECOWAS regions, such as English, French, Portuguese and other minor indigenous languages in the region. (Zhang & Aslan, 2021).

Artificial intelligence fosters the development of natural language processing algorithms that can effectively decipher and generate texts in desired languages (Makridakis, 2017). The sustainable development between language and artificial intelligence can bring about inclusive language that creates an equitable linguistic framework, with which ECOWAS member states could leverage on, in making shared policies and creating understanding and trust on various issues of regional concern.

AI has revolutionized the way we interact with language, using such language applications as chat box, chat GPT, visual assistants to bring about language translation, educational strategies such as virtual instructions, grading and corrective feedback, as well as text analysis. This synergy of language and Artificial intelligence can ultimately boost productivity in education, in terms of manpower, multilingualism and viable research that will impact positively on ECOWAS goal of human development and capacity building, through education.

Sustainability in trade and Industrialization, using AI languages assisted technology

Artificial intelligence has been of great significance in advancing industrialization and trade in many countries, such as a China. Odinko (2021) opines that AI powered platforms are a great incentive in workers' development and equipping them with language skills that will

assist them in carrying out industrial- related tasks, such as identifying investment opportunities, making predictive analysis of trading activities, data analysis, risk management, industrial compliance, creating of blog contents and fraud detection in trade activities.

Similarly, language powered artificial intelligence is of great importance for effective customer service and client outreach as well as after sales service. (Makridakis, 2017). In the ECOWAS context, such innovations are highly needed for industrial multi-tasking, especially in the areas of making market predictions, risk management, fraud detection and others. Such AI -driven applications such as Adobe Market o Exchange, Hub Spot AI and Sales Cloud Einstein are helpful in trade and marketing of wares. Additionally, Generative AI applications such as Claude and Jasper can aid in the creation and generation of business sites that boost trading activities. (Zhang and Duan, 2020)

Research Questions Three: What are the inherent challenges in achieving these objectives?

One of the challenges among others, in achieving the objectives of ECOWAS is the problem of integrating the youth and women who make up more than 70 percent of her populace. According to Dr Omar Touray, ‘...Constructive criticisms help us grow.

We may not always agree with what critics say, but the spirit behind such feedback is often a desire to see a stronger, more effective ECOWAS. They just want to see a better community.... People, especially the youth are impatient - and rightly so. We must listen to their frustrations and expectations, if we are to remain relevant’.

The ECOWAS Commission has partly addressed this problem by establishing an ECOWAS Gender Development Centre in Dakar, charged with women’s empowerment, education and health matters. However, more awareness programs on the plans of ECOWAS for women and youths, will go a long way in carrying them along in the operations of ECOWAS, thereby gaining their trust and support.

Another challenge is in the area of conflict prevention and resolution. Dr Touray admits that the conflicts faced by the Commission in our present times are more complex and challenging. Before now, ECOWAS had to deal with ‘clearly defined rebel groups’, but currently, they have complex terrorist threats that are obscure in their objectives and operations, posing a serious challenge to the commission.

Research Questions Four: What are the possible solutions to these challenges?

Having identified the problems of the commission, as requiring a collaborative and adaptive network, the next step in curbing these challenges is to adopt new strategies for conflict resolution, by introducing new policies and mechanisms to checkmate the current trend (Edozie, 2017).

In addition, the regional communities of ECOWAS should organize sensitization programs in their regions, aimed at educating the citizens on the need and their roles towards attaining and improving multilingual competence, to enhance a greater understanding among the regions in both trade and social collaborations.

Similarly, technological training and advancement in artificial intelligence is imperative among ECOWAS regional communities, to achieve innovative adaptations in key economic sectors like education, trade/industrialization, among others.

CONCLUSION

Within the five decades of the establishment of ECOWAS, the organization has resonated from an economic bloc to a formidable commission that addresses economic, socio-political and security issues among others, in fifteen African countries –Benin, Burkina Faso, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo.

The importance of regional integration cannot be over emphasized. The ECOWAS region faces numerous socioeconomic challenges, ranging from political instability, underdeveloped infrastructure, low productivity, language diversity, security issues and others. Its initiatives on free movement, conflict resolution and trade harmonization are commendable steps towards sustainable development in the region.

The study examines ways in which AI assisted language applications can aid ECOWAS operations, especially in the area of bridging language diversity in the region, among other concerns. It was discovered that language powered artificial intelligence can be used in language exchange programs, making the region multilingual; to incorporate members of diverse linguistic affiliations, such that policy makers and diplomats in the commission can speak with 'one voice', and gain mutual trust and shared understanding in their common goals.

In addition, the result showed that AI can be leveraged on, to improve on areas of ECOWAS operations, such as trade and industrialization, to achieve a more progressive and sustainable African continent.

References

- 1) Adebajo, A. (2002). *Building Peace in West Africa: Liberia, Sierra Leone and Guinea Bissau*. Boulder: Lynne Rienner Publishers.
- 2) Aning, K. (2005). The Role of ECOWAS in Regional Conflict Management. *West African Review* 7, 1:1-21.
- 3) Aning, K., and Edu-Afful, F. (2016). ECOWAS and the African Union: Interfacing Peace Operations and Security Architectures. *African Journal on Conflict Resolution*, 16, 2:77-98.
- 4) Asante, S.K.B. (2016). *Regionalism and Africa's Development: Expectations, Reality and Challenges*. Basingstoke: Palgrave Macmillan.
- 5) Ayeni, E.O.(2017). Democracy and Good Governance in Nigeria (1999-2015). *Wukari Journal of Public Sector Management*, 1,1: 26-46.
- 6) Ayeni, Q. O. and Ellah, T.O. (2025).The Role of Linguistic and Cultural Affinities in the Dynamics of ECOWAS and the AU. *Wukari International Studies Journal* ,9,1.
- 7) Bamgbose, A. (2011). *Language and the Nation: The Language Question in Sub-Saharan Africa*. Edinburgh University Press.
- 8) Chumbow, B.S.(2005). The language question and national development in Africa. *International Journal of the Sociology of language*, 173: 165-181.
- 9) ECOWAS Commission. 2020. ECOWAS at 45. Building a Community of Peoples. Abuja: ECOWAS Commission

- 10) Edozie, R. K. (2017). *The African Union's Africa: New Pan-African Initiatives in Global Governance*. Michigan: Michigan State University Press.
- 11) Fingelkurts, A. A., & Fingelkurts, A. A. (2004). Making complexity simpler. Multi variability and meta stability in the brain. *International Journal of Neuroscience* 11(4), 843-862.
- 12) Frankish, K., & Ramsey, W. M. (2014). *The Cambridge handbook of Artificial Intelligence*. Cambridge: Cambridge Press. doi.org/10.1017/CB09781139046855
- 13) Fromkin, V.; Rodman, R., & Hymas, N. (2013). *An introduction to language*. 8th Edition. Boston: Cengage learning publishers.
- 14) Guzman, L.A & Lewis, S.C. (2020). Artificial intelligence and communication: A human -machine communication research agenda. *New Media & Society*, 22(1), 70-86. doi.org/10.1177/1461444819858691.
- 15) Hohenstein, J., et al. (2023). Artificial intelligence in communication impacts language and social relationships. *Science Reports*, 13 (1):5487. doi 10.1038/s41598-023-30938-9.
- 16) Igue, J. O. (2023). *Integration and Development in West Africa. Fifty years of ECOWAS*. Dakar: Codesria.
- 17) Jiang, H., Cheng, Y., Yang, J. et al. (2022). AI powered chat bot communication with customers: Dialogic interaction, satisfaction, engagement, and customer behavior. *Computers in Human behaviour*. 134, 107329.
- 18) Kamwangamalu, N.M. (2016). Language policy in Africa; towards sustainable development. *Current Issues in Language Planning*, 17, 1: 1-16.
- 19) Makridakis, S. (2017). The forthcoming Artificial Intelligence Revolution: Its Impact on societies and firms. *Futures*, 90, 46-60.
- 20) Ministry of Education. The Peoples Republic of China, 2024.
- 21) Murithi, T. (2015). *The African Union: Pan Africanism, Peace building and Development*. Abingdon: Routledge.
- 22) National Bureau of Statistics of China .2025.
- 23) Ndlovu, M. (2022). Kiswahili as an official African Union language: Opportunities and Challenges. *African Studies Review*, 65, 3: 22-36.
- 24) Nweke. O. (2007). *ECOWAS: Three Decades of Enduring Legacies in the West African Sub-Region*. Abuja: Ositablack Ventures Press.
- 25) Nwachukwu, J. C., Okoye, N. C., and Odumuh, E.A. (2021). Artificial Intelligence and Language Teaching Implications for Global Language Development. *African Research Review*, 15 (1), 124-132.
- 26) Odinko, E. O. (2021). Digital Transformation and the Future of Education in Nigeria. *Journal of Educational Studies*, 7 (1), 1-13.
- 27) Ogunkola, E.O. and Bankole, A. S. (2021). *Leveraging market -Oriented policy instruments for Urban Resilience in Africa*. In Handbook of Urban Resilience: Essentials for Global Policy Dialogue. Lagos: Edward Elgar Publishing, pp.473-486.

- 28) Ogunmola, D. (2022). *ECOWAS and the Quest for Regional Peace and Security in West Africa*. Ibadan: Safari Books.
- 29) Olowu, D. (2020). The Challenges of Regionalism in West Africa: Lessons from ECOWAS. *African Journal of International Affairs*.19, 1:1-21.
- 30) Robinson, R. N. (2018). Artificial Intelligence: Its importance, challenges and Applications in Nigeria. *Direct Research Journal of Engineering and Information Technology*, Vol 5 (5) pp36-41.doi .0rg/10.26765/DRJEIT.2018.4780.
- 31) Sokolowski, R. (1988). *Natural and Artificial Intelligence*. Daedalus: MIT Press
- 32) Ukeje, C. (2016). The Effects of Regional Integration on Economic Growth in ECOWAS Countries *Journal of International Relations and Development Economics*, pp334-368.
- 33) United Nations African Renewal. (2025). Interview with ECOWAS Dr Omar Alieu Touray on the achievements of ECOWAS at fifty years.
- 34) Uwazie, E.E. (2020). *Peace and Conflict Resolution in Africa: ECOWAS and the West African Sub-Region*. Lanham: Lexington Books.
- 35) Xiong, W., Yang, J., and Shen, W. (2022). Higher education reform in China Comprehensive review of policy making, implementation and outcomes since 1978. *China Economic Review*, Vol 72.
- 36) Yu, K., et al. (2012). Nurturing AI talent for China's Language Industries: An Urgent Call to Action. *Journal of Language and Technology*, 4 (2), 45-56.
- 37) Zartman, I.W. (2001). *Collapsing States*. Boulder: Lynne Rienner Publishers.
- 38) Zhang, J., & Duan, Y. (2020). Artificial Intelligence and Economic Growth Evidence from China. *Journal of Comparative Economics*, 48 (4).
- 39) Zhang, K., & Aslan, A.B. (2021). AI technologies for education: Recent research & future directions. *Computers and Education. Artificial Intelligence*, 2, 1000-25.