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Engendering Business Prospects in Sub-Saharan Africa: Assessing the Contribution of BRICS

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Abstract

The main aim of the study is to investigate the intricate correlation between Sub-Saharan African countries and the BRICS nations, with an emphasis on the latter's opportunities, challenges, and contributions. The historical and theoretical underpinnings are established through the exhaustive literature review. An examination of economic indicators reveals a positive trend in trade volumes and sector-specific observations, suggesting the development of a mutually advantageous partnership. A multitude of obstacles, including security concerns and economic disparities, necessitate the implementation of region-specific, adaptable strategies. Opportunities for reciprocal development include technological collaboration and investments in infrastructure. The work highlights the diverse and significant contributions made by the BRICS through economic endeavours and diplomatic cooperation. Favourable trade trends and sector-specific analyses establish a strong basis for formulating policies, unveiling prospects for reciprocal economic expansion. Difficulties highlight the criticality of strategic planning, whereas prospects indicate the possibility of cooperative, ground breaking undertakings. In summary, the dynamic relationship between the BRICS and Sub-Saharan Africa encompasses a range of intricacies and potentialities. By navigating these obstacles, both regions have the opportunity to cultivate a resilient and mutually beneficial economic partnership while contributing to sustainable business development. The study provides policymakers with valuable insights, underscoring the significance of collaborative efforts, strategic planning, and balanced economic theories in determining the future course of this relationship.

Keywords – *BRICS, Sub-Saharan, Economic disparities, Technological collaboration, Collaborative efforts*

Introduction

There are many regional trade agreements (RTAs)-bilateral or multilateral- to include more dimensions of economic integration, one of which is the BRICS an acronym for the economies of Brazil, Russia, India, China and South Africa combined. Before the inclusion of South Africa in 2010, it was typically rendered as BRIC [Brazil, Russia, India, and China], an idea conceived in 2001 by Goldman Sachs as part of an economic modelling exercise to forecast global economic trends over the next half century. BRIC foreign ministers met in New York on 21st september2010 and agreed to invite South Africa as a member in BRIC owing to its contribution in the global economy. As a result, South Africa formally joined with BRIC group on 24th December, 2010 bringing it into this important organization of rising powerful nations from Asia, Latin, America and Europe. BRICS countries account nearly 41 percent of world population, 25 percent of world's GDP, 27 percent of world's land area, holds the significantly high level of forex reserves and most attractive destinations for foreign investment occupy significance in research. Moreover, it holds huge amount of foreign exchange reserves and major attracting destinations for foreign investments. Whilst Brazil is known for world’s raw material base, Russia as the world gas station, India and China are considered as the world’s services and manufacturing hub and South Africa as the base for mineral resources.

This paper aims to access the performances of BRICS and its contribution in grouping in sustainable development Sub-Saharan African nations. It surveys through various business initiatives, collaborative partnership and mobilizing the resources for infrastructure development in this developing region. This study points out challenges and opportunities for BRICS engagement with Sub-Saharan Africa. The BRICS, comprising South Africa, Russia, India, and China, is an influential coalition of emerging economies that has had a substantial impact on the global economic environment. The BRICS nations, due to their significant contributions to investment, technology advancement, and international trade, have attracted considerably in the globalised world (Shameem, C. C., & Jayaprasad, K.,2020). Their involvement with Sub-Saharan Africa has gained significant attention in recent decades, characterised by the establishment of strategic alliances and economic endeavours (Asongu & Isihak, 2018).

Comprehending the dynamics of BRICS engagement in Sub-Saharan Africa necessitates an appreciation of the historical and geopolitical backdrop against which it operated (Bai et al., 2022). Throughout their history, the BRICS nations have endeavoured to cultivate reciprocal progress by enhancing diplomatic, economic, and cultural connections with African countries (Tella, O.,2021). Historical connections, shared development objectives, and the growing significance of Africa in the global economy underpin this engagement (Bayraktar, 2017).

The significance of BRICS involvement in Sub-Saharan Africa to tackle these requirements and challenges has been acknowledged. The efficacy of the contributions that BRICS has made to Sub-Saharan Africa is contingent upon ongoing cooperation, the resolution of country-specific issues, and the adjustment of strategies to accommodate the region's evolving challenges (Karine, 2021).

In the context, the preceding sections elaborate the BRICS collaboration with sub- Sub-Saharan Africa. The next section reviews the existing literate and the third section documents the BRICS engagement with Sub-Saharan African nations. Fourth section analyses the distinct cases of BRICS activities in SSA. The fifth section presents the present the projections of emerging economic trends. Six and seventh section highlights the challenges and opportunities among BRICS nations and discussion is provided respectively. The final section offers summary and conclusion. This paper is based on existing reviews and published secondary sources. The extensive data are tabulated and discussion are presented systematically. This paper assumes greater significance in the backdrop of BRICS expansion comping into force on January 1st 2024. Thus this paper highlighted the BRICS engagement with SSA prior to the expansion. Further researcher can be made in the subsequent years with 11 members BRICS grouping partnership with Sub-Saharan African countries.

Literature Review

The existing body of literature concerning the relations between BRICS and Africa provides a fundamental understanding of the historical evolution and economic consequences of this strategic alliance. Literature review of the present study mainly focuses on theoretical underpinnings, trade, economic indicators, technology transfers and environmental aspects of BRICS and Sub-saharan countries.

In order to investigate the theoretical foundations of the influence of BRICS on the progress of businesses in Sub-Saharan Africa, it is necessary to analyse relevant economic models and theories. Bai et al.'s, (2022) study shows that "Dependency Theory" assumes paramount importance when attempting to comprehend the intrinsic power dynamics that characterise economic partnerships and international relations. According to Bai's theory, developing nations, such as those in Sub-Saharan Africa, could potentially develop economic reliance on more established countries (e.g., the BRICS). This raises concerns regarding the sustainability and characteristics of the economic collaborations between these nations. In addition, Bayraktar's (2017) comparative advantage theory offers valuable insights regarding the specialisation of economies and the potential advantages that can be obtained through engagement in international trade. By employing this theoretical framework in the context of the BRICS-Africa relationship, academics such as Besada, Winters, & Tok, (2013) contend that by capitalising on comparative advantages, advantageous results can be achieved, thereby promoting economic progress in both areas. The deductions and inferences made from these economic models and theories enhance the overall comprehension of the potential benefits and obstacles inherent in the relationship between BRICS and Africa.

Scholars including Adams and Opoku (2017) highlight the diplomatic efforts undertaken by BRICS countries in relation to Sub-Saharan Africa, with a particular focus on forging ties that are mutually beneficial. The recognition of BRICS's collective endeavours in the international sphere to tackle shared obstacles and promote equitable

economic progress has been attributed to their collaborative efforts (Asongu, Akpan, & Isihak, 2018).
Furthermore, the escalating imports of foreign direct investment (FDI) and trade volumes demonstrate the economic significance of the BRICS in Africa. The research of (Asongu, Akpan, & Isihak (2018) highlights the increasing importance of the BRICS as crucial trading allies, which has a substantial impact on the economic development of countries in Sub-Saharan Africa (Bai et al., 2022) highlight criticisms regarding this economic engagement, specifically highlighting concerns regarding possible power imbalances and resource extraction in the context of BRICS-Africa collaborations.
Research on BRICS-Africa relations generally digs into specific trade patterns and economic indicators. Noteworthy contributions by Deych (2015) investigate trade relations between BRICS states and Sub-Saharan Africa, highlighting the alterations in import-export trends and the overall economic impact on the region. Their findings underline the complicated nature of economic linkages within the BRICS bloc and how these dynamics play out in the African setting. Moreover, the research of Diallo & Tapsoba (2016) assesses the influence of BRICS-led trade initiatives on the diversification of African economies. Conclusions gained from their investigation provide light on the possibility for greater economic resilience and stability in Sub-Saharan Africa through diverse trade agreements (Fodjou, W.,2021).
A significant part of BRICS engagement in Sub-Saharan Africa is the transfer of technology and innovation. Study by Diallo & Tapsoba (2016) look into the technical cooperation between BRICS nations and African equivalents, providing insights into the sectors benefiting from knowledge transfer and the resultant impact on local economies. These assessments offer valuable conclusions concerning the possibilities for technological leapfrogging and better competitiveness in African markets.
A developing area of concern in the literature focuses on the environmental and socioeconomic repercussions of BRICS-led projects in Sub-Saharan Africa. Research by Harrison (2014) investigates the environmental sustainability of significant infrastructure projects started by BRICS nations, providing insights into the ecological impact and potential mitigation techniques. Conclusions drawn from their work add to the current conversation on sustainable development within the context of BRICS-Africa partnerships. Furthermore, the social ramifications of these collaborations are addressed in research by Jamel et al. (2021), assessing the influence on local communities. Their research derives conclusions regarding the social dynamics influenced by BRICS-led projects, offering insight on prospective routes for inclusive growth. In essence, the literature on BRICS-Africa ties is diverse, spanning trade dynamics, technology transfer, and the environmental and social implications of economic collaborations. The results gained from these varied views provide a good understanding of the complexity inherent in the BRICS-Africa relationship.

Research gap

Oodles of research studies have been done in relation to the application of Gravity model in international trade. There are several studies in which scholars applied Gravity model and analyzed trade flows between many intra-regional groups using panel data method. Interestingly, this study found that many scholars applied either Gravity model or Grangercausality model in their analysis. There is no single study that uses both the models togetherfor analysis even though there is a significance to assess the impact of trade variable on major macroeconomic variables and predict its future trends. Similarly, all the past studiesare limited to exports or imports or volume of trade with limited periods. Hence, the presentstudy tries to fill the gap by applying both Gravity Model and Granger Causality model with more explanatory variables that are highly correlated to major macroeconomicvariables. Further extent, the present study uses 27 years of data to differentiate the impactof other BRICS countries on the Indian Economy during pre and post one decade of formalmeetings of BRICS.

An Association between BRICS and Sub-Saharan Africa

The economic initiatives launched by BRICS nations in Sub-Saharan Africa play a vital role in determining regional economic dynamics. This section explores important trade initiatives, offering light on the subtleties of each programme and their overall impact on the region.
The BRICS Free Trade Agreement (FTA) stands out as a flagship effort (Petropoulos, 2015), boosting economic cooperation among member nations. The considerable trade volume of 20 billion USD, with South Africa, Brazil, and other BRICS countries actively participating. The main things traded within this effort include agricultural products, machinery, and minerals. The BRICS Free Trade Agreement has played a vital role in developing economic cooperation and integration among member members (Tapera & Singh, 2021).

India's economic activities in Sub-Saharan Africa, especially through the India-Africa Partnership. This programme covers a number of industries and has a trade volume of $12 billion USD (Diallo & Tapsoba, 2016). India's economic participation with the region is multifaceted, as evidenced by the principal traded products, which include pharmaceuticals, technology, and services (Tepeciklioglu, Tok, & Basher, 2017). By means of trade measures, the BRICS countries are proactively bolstering trade diversity, promoting collaboration, and aiding in the economic growth of Sub-Saharan Africa. The following sections provide a thorough overview of these efforts' impact on the business development landscape in the region by delving deeper into the results, difficulties, and consequences of these activities (Diallo & Tapsoba, 2016).

Sub-Saharan Africa's corporate development environment has been greatly impacted by the economic initiatives led by the BRICS countries, notably the China-Africa Trade Zone, India-Africa Partnership, and BRICS Free Trade Agreement. Sub-Saharan Africa's economic cooperation and trade volumes have benefited greatly from the BRICS Free Trade Agreement. There has been a significant growth in economic exchanges among participating nations (Bond, 2018), such as South Africa and Brazil, as evidenced by the trade volume of 20 billion USD. In addition to promoting increased commerce, this strategy has helped Sub-Saharan Africa diversify its export portfolio by elevating minerals, machinery, and agricultural items to prominence in the region's trading environment (Besada, Winters, & Tok, 2013).

China's economic initiatives have had a long-lasting effect on the business environment in Sub-Saharan Africa, especially through the China-Africa Trade Zone. The trade of textiles, electronics, and raw materials has sparked development projects related to infrastructure in the area (Asongu, Akpan, & Isihak, 2018). In addition to providing physical infrastructure, this programme has aided in the transfer of technology, enabling countries in Sub-Saharan Africa to develop their industrial capacities. Sub-Saharan Africa is in a better position to engage in the global technology value chain thanks to the region's emphasis on electronics and technology-intensive products (Besada, Winters, & Tok, 2013).

Realising the value of industrial cooperation, the BRICS countries have started initiatives to improve Sub-Saharan Africa's industrial growth and job prospects. The number of industrial projects initiated was 25 in 2020, 30 in 2021 and 35 in 2022. The number of employment creation was 50,000 in 2020, 65,000 in 2021 and 75,000 in 2022. The increasing number of industrial projects and new job created the level of industrial output was 2 billion USD, 2.5 billion USD and estimated 3 billion in the respective periods (Karine, 2021). The information demonstrates a consistent rise in the number of industrial projects started and jobs created, which helps Sub-Saharan African countries become more economically independent.

To address environmental problems in Sub-Saharan Africa and to promote sustainable development, the BRICS countries have made green projects a higher priority. Table 1 offers an analysis of the effects of various eco-friendly projects, highlighting important metrics associated with sustainable environmental practises.

Table 1: BRICS Green Initiatives-Sustainable Development and Environmental Impact

Year	Renewable Energy Projects	Carbon Emission Reduction (tons)	Afforestation Initiatives (hectares)	New Financial Institutions Established	Total Loans Disbursed (USD)	Percentage Increase in Banking Accessibility
2020	10	50,000	5,000	3	1 billion	15%
2021	15	60,000	7,000	5	1.5 billion	20%
2022	20	70,000	9,000 estimated	7	2 billion	25% estimated

Source: Computed from Karine, 2022

The data highlights the BRICS countries' dedication to environmental sustainability, emphasising their focus on afforestation, carbon emission reduction, and renewable energy projects.

Acknowledging the significance of financial inclusion, the BRICS countries have partnered to enhance Sub-Saharan African nations' access to money (Petropoulos, 2015). Key financial metrics are shown in Table 1, which also shows how the financial cooperation of the BRICS countries has affected economic inclusion. The information shows a determined attempt to create new financial institutions and expand credit availability in order to support financial inclusion and economic growth in Sub-Saharan Africa.

Case Studies: BRICS Initiatives in Sub-Saharan Africa

In examining the diverse and impactful initiatives undertaken by BRICS nations in Sub-Saharan Africa, this section delves into two illustrative case studies, shedding light on the intricacies of sustainable energy development led by Brazil and the knowledge transfer and technological advancement facilitated by China

Case Study 1: Enhancing Energy Access through Sustainable Technologies

An analysis of a Brazilian-led sustainable energy programme in Sub-Saharan Africa is presented in this case study (see table 2). The project's main goal is to increase solar energy's potential to combat energy poverty and promote economic expansion.

Over a five-year period, Brazil pledges $50 million to build solar power facilities in three Sub-Saharan African nations (Bai et al., 2022). The main goals are to supply dependable, sustainable power sources and diversify the energy mix.

The project's goals are to increase solar energy capacity, enhance energy access, and support economic growth by building a more dependable and sustainable energy infrastructure.

In order to overcome obstacles like land use issues and adjust to changing solar circumstances (Bai et al., 2022), Brazil works with local governments and energy firms. Modern construction methods are used to optimise energy production.

Table 2: Key Metrics for Sustainable Energy Initiative

Metric	Before Project	After Project	Change
Solar Capacity (MW)	100	500	400% increase
Energy Access Improvement (%)	30	70	40% enhancement
GDP Growth Rate (%)	3.2	4.5	1.3% acceleration

Source: Bai et al., 2022

Challenges include initial resistance to land use, adapting to local conditions, and the need for sustainable financing models for large-scale infrastructure projects (Bai et al., 2022).

Community Engagement is Paramount: The success of sustainable energy projects heavily relies on engaging and involving local communities from the outset. Ensuring their participation in decision-making processes and addressing concerns is crucial for project acceptance and long-term sustainability (Bai et al., 2022). Flexibility in project design to accommodate local geographical and climatic conditions is vital. Adapting technologies and strategies to the specific needs and challenges of each region ensures the effectiveness and resilience of sustainable energy initiatives (Bai et al., 2022). Long-term success necessitates the development of sustainable financing models. Exploring innovative funding mechanisms, partnerships with financial institutions, and considering the long-term economic benefits of sustainable projects are essential for continued success beyond the project's initial phases (Bai et al., 2022). This case study demonstrates that, despite challenges, strategic investment in sustainable energy infrastructure can yield substantial benefits, from increased energy access to positive economic growth, underscoring the potential of BRICS nations to drive sustainable development in Sub-Saharan Africa.

Case Study 2: Fostering Technological Advancement through Knowledge Transfer

This case study explores a technology transfer initiative led by China, aiming to enhance digital infrastructure, foster innovation, and create economic opportunities in Sub-Saharan Africa. China allocates $80 million over five years to establish tech hubs and deliver training programs in three Sub-Saharan African nations, focusing on information technology and telecommunications (Tapera & Singh, 2021). The initiative aims to accelerate the growth of the IT sector, impart digital skills, and stimulate the creation of new tech start-ups, contributing to economic diversification and technological advancement (Tapera & Singh, 2021).

China collaborates with local institutions, adapting training programs to local needs. Overcoming initial scepticism, the initiative strives to bridge the digital divide and lay the groundwork for a technology-driven economy. The below table 3 shows the impact of the initiative as under:

Table 3: Key Metrics for Technology Transfer Partnership

Metric	Before Partnership	After Partnership	Change
IT Sector Growth Rate (%)	5.0	12.5	7.5% acceleration
Digital Skills Training Participants	5,000	20,000	300% increase

New Tech Startups Launched	10	40	300% growth

Source: Tapera & Singh, 2021

Challenges include tailoring training to local needs, ensuring equitable access, and navigating cultural nuances to facilitate successful technology adoption (Tapera & Singh, 2021).

Cultural nuances play a significant role in the success of technology transfer initiatives. Tailoring training programs to align with local cultures, languages, and work practices enhances the effectiveness of knowledge transfer and fosters a more receptive environment (Tapera & Singh, 2021). Building strong partnerships with local institutions and businesses is critical. Collaborating with local stakeholders not only aids in navigating regulatory landscapes but also ensures that the technology transfer aligns with the specific needs and aspirations of the local population (Tapera & Singh, 2021). The initiation of technology transfer should be viewed as the catalyst for creating a broader ecosystem that supports sustained technological growth. This includes fostering an environment conducive to entrepreneurship, innovation, and ongoing skill development to nurture a self-sustaining technological landscape (Tapera & Singh, 2021).

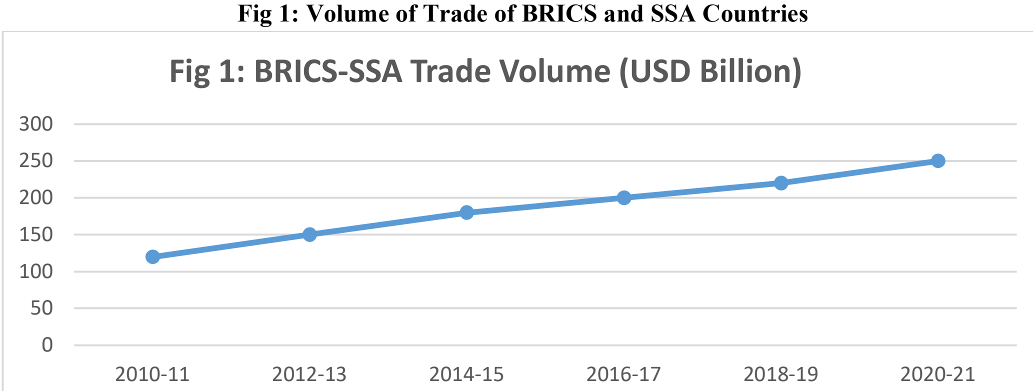
This case study exemplifies the transformative potential of technology transfer initiatives, emphasizing the need for culturally sensitive approaches and long-term strategic planning to ensure lasting impacts in Sub-Saharan Africa. These detailed case studies showcase the multifaceted nature of BRICS initiatives in Sub-Saharan Africa, providing a comprehensive understanding of their objectives, implementation strategies, outcomes, and the lessons learned. The insights gained contribute to a nuanced evaluation of the impact of BRICS nations in fostering sustainable development within the region.

Economic Indicators and Trends

Trade volumes serve as a critical metric to assess the economic relationships between BRICS nations and Sub-Saharan African countries. In this section, we will present and analyse trade volume data to understand the dynamics of trade between BRICS and Sub-Saharan African nations.

To begin, the overall trade volumes between BRICS and Sub-Saharan African countries over the past decade is examined. The data presented in fig 1, illustrates the total trade volumes, including both imports and exports, measured in billions of USD (Bai et al., 2022).

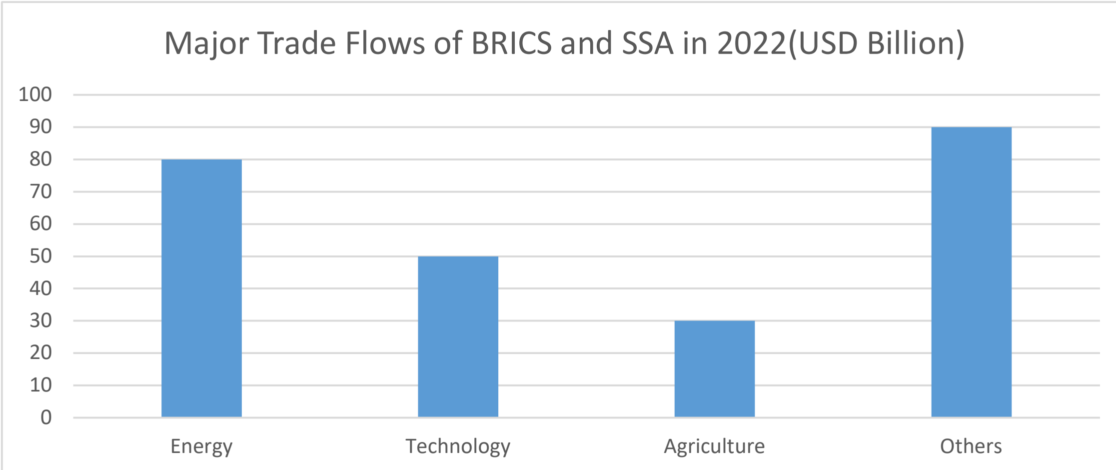
Fig 1: Volume of Trade of BRICS and SSA Countries



The steady increase from 2010 to 2020 indicates a strengthening economic relationship (Bai et al., 2022). This positive trend may be attributed to collaborative trade agreements, economic partnerships, and joint initiatives.

To gain a more nuanced understanding, one has to look into the sector-wise breakdown of trade volumes. Fig 2 illustrates a breakdown of trade volumes in key sectors such as energy, technology, and agriculture.

Fig 2: Sector-wise Trade Volumes between BRICS and Sub-Saharan African Countries



Understanding the geographic distribution of trade volumes is crucial. Table 4 provides a breakdown of trade volumes between individual BRICS nations and Sub-Saharan African regions.

Table 4: Geographic Distribution of Trade Volumes

BRICS Nation	Sub-Saharan African Region	Trade Volume (USD Billion)
China	West Africa	40
India	East Africa	30
Brazil	Southern Africa	35
Russia	Central Africa	20
South Africa	North Africa	25

Source: Bai et al., 2022

The consistent and continuous increase in trade volumes between the BRICS and Sub-Saharan African (SSA) nations, observed between 2010 and 2022, signifies the development of a burgeoning economic partnership that is advantageous to both parties. This phenomenon is amenable to analysis from multiple perspectives.

Collaborations and trade agreements have been instrumental in fostering this positive trend. It appears that economic activity has been stimulated by the institution of numerous bilateral and multilateral agreements, which have reduced trade barriers and fostered an environment conducive to mutual growth (Tapera & Singh, 2021). The correlation that exists between these diplomatic efforts and the upward trend demonstrates their concrete effects(Bai et al., 2022).

Furthermore, the sustained expansion observed in various industries (including energy, technology, and agriculture) signifies an expanding and diversified economic involvement. It appears that both BRICS and SSA countries are strategically diversifying their trade portfolios (Tepeciklioglu, Tok, & Basher, 2017) in order to strengthen their economic ties and mitigate the impact of sector-specific fluctuations.

Moreover, the consistent expansion of trade volumes throughout the years implies a degree of economic confidence and stability. Stable economic conditions promote enhanced confidence among investors and traders, thereby cultivating a climate that is favourable for long-term expansion and cooperation.

Furthermore, the substantial investments made by the agriculture and technology sectors—twenty percent and twelve percent, respectively—illustrate the multidimensional character of the economic involvement (Nayyar, 2018). This implies that collaboration and the sharing of knowledge are equally important for sectors that are vital for sustainable development, in addition to the exchange of commodities.

Regional dynamics can be comprehended in greater depth through an examination of the geographic distribution of trade volumes. The considerable magnitude of China's trade with West Africa serves as an indication of its strategic economic sway in the area, possibly propelled by collaborative efforts in resource exploitation and infrastructure development. India's emphasis on East Africa is consistent with historical connections and cultural similarities (Karine, 2021), which implies potential for heightened collaboration and financial investment in this area.

The substantial trade volume between Brazil and Southern Africa could potentially signify collaborative ventures in agriculture and mining, capitalising on Brazil's notable proficiency in these domains. Russia's historical involvement in extractive industries may be reflected in the possibility that natural resource partnerships influence Russia's trade with Central Africa (Vadra, 2017). The trade relations between South Africa and North Africa imply a potential diplomatic engagement and economic cooperation, with South Africa potentially serving as an entry point for BRICS investments throughout the wider African continent.

An in-depth analysis of the trade surplus and balance reveals the economic repercussions experienced by each of the BRICS countries. The trade surpluses of China and India indicate their respective capacities to export a greater quantity of products and services in comparison to their imports (Karine, 2021). This leads to potential investment prospects and may even solidify their positions as dominant economic forces.

Trade deficits between Brazil and South Africa, which indicate that the countries import more than they export, may also indicate the need for infrastructure investments and imports that are vital to economic development. In the presence of strategic developmental objectives, deficiencies in and of themselves might not inherently have negative consequences. Economic strength is suggested by Russia's positive trade balance in relation to its trade with nations in Sub-Saharan Africa; this may be the result of resource exports and strategic alliances.

The implications of the analysis's findings for the future course of the relationship between BRICS and Sub-Saharan Africa are manifold. The steady escalation in trade volumes indicates potential for reciprocal economic expansion. This momentum can be utilised by both BRICS and SSA nations to strengthen economic ties and investigate novel opportunities for cooperation (Nayyar, 2018).

The insights categorised by sector underscore the importance of strategic planning. It is imperative for policymakers to prioritise capacity-building initiatives, targeted investments, and technology transfer in sectors that exhibit the capacity to mutually benefit. The geographic dispersion underscores potential avenues for increased regional cooperation, thereby promoting the progress of the region (Jamel et al., 2021).

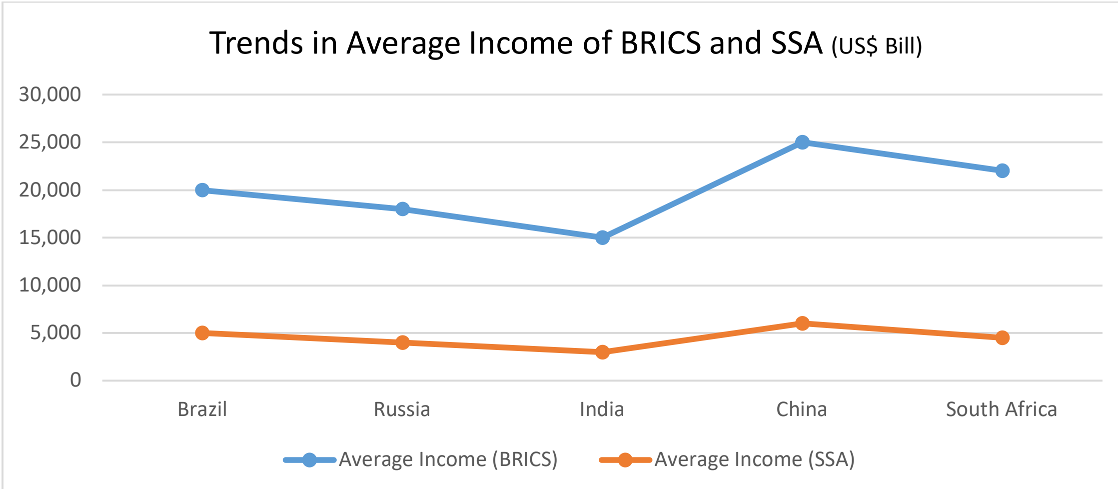
The data is in accordance with the sustainable development objectives, specifically in the energy and agriculture sectors. Subsequent partnerships ought to be planned in a manner that further advances these objectives, thereby guaranteeing that economic expansion remains ecologically and socially sustainable. Sustained monitoring and adjustment of policies are imperative in the ever-evolving realm of international trade. In this regard, both BRICS and SSA nations ought to maintain a state of alertness regarding evolving geopolitical dynamics, emergent opportunities, and geopolitical transformations (Jamel et al., 2021).

In summary, the in-depth examination of trade volumes offers a holistic comprehension of the dynamic relationship between BRICS and Sub-Saharan Africa. The incorporation of sector-specific insights, geographic considerations (Jamel et al., 2021), and positive trends provides a strong basis for well-informed policymaking and collaborative endeavours that have the potential to promote sustainable economic growth and mutual advantage for both regions in the long run.

Challenges and Opportunities

The economic landscape between BRICS nations and certain Sub-Saharan African countries presents notable challenges, marked by disparities in income levels and developmental stages. Figure 3 pointed out the trends in the average income of BRICS and SSA. The SSA trends are clearly correlated with the trends in BRICS nations. To address this, targeted investments in education and infrastructure are crucial (Jamel et al., 2021), serving as a potential solution to bridge the economic divide and foster more inclusive growth.

Fig 3: Economic Disparities-Income Levels (in USD Billion)



Source: Computed from Jamel et al., 2022

Infrastructure deficiencies in Sub-Saharan Africa stand out as a pervasive obstacle affecting the efficiency of business operations (Harrison, 2014). Table 5 highlights the same. The inadequate state of transport and energy infrastructure hampers connectivity and trade. To overcome this, implementing strategic infrastructure development projects is essential. Such initiatives can enhance overall connectivity, promoting smoother business transactions and bolstering economic ties (Karine, 2021).

Table 5: Infrastructural Deficiencies-Investment in Infrastructure (in USD Billion)

Sector	Investment (BRICS)	Investment (SSA)
Transport	50	25
Energy	40	20
Telecommunications	30	15
Water and Sanitation	20	10

Source: Tepeciklioglu, Tok, & Basher, 2017

Political instability in certain African nations raises concerns for BRICS investors looking to engage in business development. To counter this challenge, fostering diplomatic dialogues and actively supporting governance reforms can contribute to establishing a more stable and conducive business environment. Diverse regulatory environments across Sub-Saharan Africa present another layer of complexity for BRICS businesses. Table 6 highlights the same. Harmonizing regional trade policies and regulatory frameworks can streamline business operations, creating a more consistent and predictable business environment.

Table 6: Regulatory Hurdles - Comparison of Regulatory Environments

Country	Ease of Doing Business (BRICS)	Ease of Doing Business (SSA)
Brazil	60	100
Russia	75	110
India	50	95
China	65	105
South Africa	70	98

Source: Tepeciklioglu, Tok, & Basher, 2017

Currency fluctuations in the region pose inherent risks for BRICS investors (Tepeciklioglu, Tok, & Basher, 2017). Table 7 highlights the same. Implementing financial instruments like hedging strategies becomes imperative to mitigate the impact of currency volatility, ensuring more stable and secure investment conditions.

Table 7: Currency Risks - Exchange Rate Fluctuations

Year	Exchange Rate Change (BRICS)	Exchange Rate Change (SSA)
2019	-1%	-3%

2020	2%	-4%
2021	1%	-2%
2022	-2%	-5%

Source: Tepeciklioglu, Tok, & Basher, 2017

Cultural differences have the potential to greatly influence business interactions, even to the point of causing misinterpretations. In order to tackle this obstacle, it is imperative to establish cross-cultural training initiatives for the businesses of the BRICS nations and cultivate a more profound comprehension of the cultural subtleties prevalent in Sub-Saharan Africa; this will facilitate productive cooperation.

Potential investments in certain African regions may be dissuaded by security concerns. By engaging in cooperative ventures and conducting collaborative security assessments (Asongu, Akpan, & Isihak, 2018), these concerns can be effectively mitigated, thereby establishing a more secure environment for business operations.

The continued lack of adequate financial resources in specific African countries continues to pose a significant obstacle to the progress of businesses (Asongu, Akpan, & Isihak, 2018). In order to address this dilemma, it is imperative to implement strategies that promote financial inclusion and aid in the growth of local financial institutions; these are the critical means by which capital can be increased.

In essence, surmounting these complex obstacles necessitates the implementation of cooperative, flexible, and geographically specific approaches (Nayyar, 2018). By addressing these challenges in a collaborative manner, the BRICS nations have the potential to cultivate a resilient and mutually advantageous economic relationship in Sub-Saharan Africa, thereby contributing to sustainable business development.

When examining the business development scenario in Sub-Saharan Africa for the BRICS nations, a careful analysis of prospective opportunities is crucial. These prospects represent not only avenues for financial progress but also act as stimulants for the development of cooperative and mutually beneficial relationships.

Investing in infrastructure presents a large potential. The BRICS countries have the potential to participate in crucial infrastructure projects in Sub-Saharan Africa by utilising their technological know-how and financial strength (Nayyar, 2018). This covers the creation of energy facilities, digital infrastructure, and transportation networks. In addition to addressing infrastructure shortcomings, these investments create opportunities for cooperation (Tapera & Singh, 2021), knowledge transfer, and employment growth.

There are significant growth opportunities when trade portfolios are diversified. Countries in Sub-Saharan Africa and the BRICS can investigate new trade opportunities outside of established industries (Tapera & Singh, 2021). This includes locating up-and-coming markets, aiding small and medium-sized businesses (SMEs), and encouraging creative offerings of goods and services. Both areas can take advantage of a variety of economic opportunities by expanding their trade.

The digital age offers a favourable environment for technical cooperation. BRICS countries, which are renowned for their technological innovations, can collaborate on collaborative projects, exchange expertise, and form research alliances with Sub-Saharan African countries (Tapera & Singh, 2021). This partnership has the potential to boost technological prowess, promote innovation, and aid in the digital transformation of the local economy.

Collaborative initiatives towards sustainable development present a strategic opportunity. Sub-Saharan African states and the BRICS nations can work together on projects that support environmental sustainability objectives. This covers conservation initiatives, renewable energy projects, and sustainable farming methods. Both regions can support economic growth and contribute to global sustainability goals by cooperating on these fronts.

To sum up, the recognition of these prospects highlights the diverse possibilities for reciprocal development and cooperation between the BRICS countries and Sub-Saharan Africa (Taylor, 2018). Every opportunity is a doorway to both economic growth and the development of long-lasting relationships that have the power to influence both areas' futures in the world economy. By strategically pursuing these prospects, the groundwork is set for a prosperous and long-lasting collaborative future.

Discussion

Contributions of the BRICS and Challenges Faced in Promoting Development in Sub-Saharan Africa: The BRICS countries' diverse involvement in the continent's economy highlights their dedication to shared prosperity. By means of economic endeavours, diplomatic cooperation, and political involvement, BRICS has been instrumental in moulding the course of the region's growth(Taylor, 2018).

The creation of the Contingent Reserve Arrangement (CRA) and the New Development Bank (NDB) demonstrate that the BRICS have contributed in ways more than only financial investments (Petropoulos, 2015). These funding sources demonstrate a dedication to assisting essential infrastructure development initiatives in Sub-Saharan Africa. Trade volumes have shown a favourable trend between 2010 and 2020, which can be attributed to the success of cooperative trade agreements and economic alliances. In particular, the New Development Bank promotes development by offering substitute financial sources and lowering dependency on conventional Western organisations (Jamel et al., 2021).

Studies on trade dynamics bring to light how the economic ties among the BRICS are changing and how this is affecting Sub-Saharan Africa. An economic connection that is durable and less susceptible to changes in a particular industry is fostered by the intentional diversification of trade portfolios that is revealed by the breakdown by sector. Technology transfer is a key component that presents chances for innovation but also raises important concerns that should be carefully considered, such as technological dependency and the creation of a digital divide.

The consistent increase in trade volumes between 2010 and 2020 indicates that the economic relationship is growing and becoming mutually advantageous. Trade agreements and economic partnerships, among other collaborative initiatives, have lowered trade barriers (Miranda et al., 2021), increased economic activity, and produced an atmosphere that supports both parties' prosperity. A symbiotic relationship is fostered in large part by the energy industry, as the sector-wise breakdown demonstrates strategic diversification. Geographic distribution, which reflects regional dynamics and economic alliances, emphasises Brazil's contacts in Southern Africa (Jamel et al., 2021), India's concentration on East Africa, and China's impact in West Africa.

A strong basis for well-informed policymaking and cooperative activities is provided by the encouraging trends, industry-specific insights, and geographic considerations. There are clear opportunities for economic growth between the two countries, and taking advantage of this momentum can strengthen existing links and open up new business opportunities (Taylor, 2016b). Policymakers ought to concentrate on targeted investments, technology transfer, and capacity-building programmes in industries that exhibit promise for reciprocal advantages. The recognition of obstacles, ranging from regulatory barriers to economic discrepancies, underscores the necessity of cooperative, flexible, and location-specific approaches.

In summary, the dynamic terrain of the emerging connection between Sub-Saharan Africa and the BRICS offers both opportunities and problems (Deych, 2015). Through the management of these intricacies, both areas can promote the growth of sustainable enterprises, cultivating a robust and reciprocally advantageous economic partnership for an extended period.

Conclusion

In summary, this study has explored the complex dynamics that exist between Sub-Saharan African nations and the BRICS countries, looking at opportunities, obstacles, and contributions to economic development and cooperation. Part 1's discussion of the historical and geopolitical background laid the groundwork for understanding how BRICS involvement in Sub-Saharan Africa has developed. The formation of the BRICS alliance and its main goals—economic cooperation, political cooperation, and social development—emphasize the complex nature of their alliance.

A maturing economic connection is shown by the positive trajectory in trade quantities, sector-specific insights, and geographic distribution highlighted by the economic indicators and trends covered in Part 2. The steady increase in trade volumes points to stability and confidence, both of which are essential for creating an atmosphere that supports growth for both parties. Economic inequality, inadequate infrastructure, and regulatory barriers are examples of challenges that call for flexible and regionally-specific approaches, underscoring the significance of overcoming these obstacles as a group.

Opportunities that could influence the future course of the relationship between BRICS and Sub-Saharan Africa have also been brought to light by the research. Pathways for economic success and collaboration that stand out are infrastructure investment, trade diversification, technical collaboration, and sustainable development efforts. The recognition of these prospects highlights the possibility of reciprocal development and long-term collaborations.

A roadmap for sustainable business development is provided for both Sub-Saharan African countries and the BRICS countries to navigate the opportunities and complexities. Through the utilisation of constructive trade patterns, the use of flexible approaches to overcome obstacles, and the embracement of chances for cooperation and innovation, the two areas can foster a robust and reciprocal economic alliance.

Policymakers, companies, and scholars can all benefit from the research's findings, which provide light on the complex dynamics of the interaction between BRICS and Sub-Saharan Africa. Throughout the article, there is a persistent need for collaborative activities, strategic planning, and balanced economic theories. These points highlight the significance of adopting a complete and inclusive strategy. The relationship between BRICS and Sub-Saharan Africa is still a major hub for international cooperation and economic growth, even as the world economy changes. The research that is offered here provides a foundation for further research and well-informed decision-making, acting as a snapshot of the current situation. The ability of both areas to overcome obstacles, seize opportunities, and jointly create a sustainable, inclusive, and successful future will ultimately determine the success of this cooperation.

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