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Role of Innovation and E-Commerce in BRICS – An Exploratory Analysis

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ABSTRACT

Purpose: The objective of this study is to review the challenges, opportunities and the e-commerce ecosystem within the BRICS grouping and to examine how Innovation and Technology can help the BRICS group, develop and enhance the cross-border trade through e-commerce. An attempt has been made through this paper for a comprehensive review and analysis of performance of the BRICS countries in cross border trade, with reference to ease of doing business, e-governance and logistic performance index.

Design/Methodology/Approach: Comparative data collected through literature survey is analysed and compiled to highlight the current business scenario and BRICS contribution in world trade.

Findings: In view of global innovation index and prevailing R&D infrastructure, BRICS forum has focussed on cooperation in Science and Technology, technology transfer and commercialization of R&D to support development of trade and e-commerce industry within BRICS. It is imperative that for a sustainable integration with global economy and development of e-commerce industry within BRICS, innovative technologies are to be adapted, including latest concepts like Mobile commerce and Social commerce, apart from collaboration and technology transfer from developed countries.

Paper Type: Theme Based Paper.

KEYWORDS Global Trade | Cross Border Trade | E-Commerce Ecosystem | Internet Infrastructure | R&D Infrastructure | Innovation Index | E-Governance | Logistic Performance | Ease of Doing Business | Innovative Technologies

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Introduction:

Globalization has brought down the trade and investment barriers in emerging economies and made them an attractive source of business opportunity, cheap consumer goods and opening of new job opportunities. The BRICS grouping together represent approximately 42 percent of the population, 23 percent of GDP, 30 percent of the territory and 18 percent of the global trade. It is high time that BRICS nations come closer and work together to develop the e-commerce industry within and globally. Three emerging countries within BRICS-China, India and Brazil have reported significant growth in the past while the developed world struggled to recover from financial crisis. For start-ups and major industry players, the emerging markets are becoming testing ground for innovation which plays an important role even as the manufacturers strive to enter into new markets to increase their market shares and to replace the outdated products with better quality products using new technologies. Today. Innovation is reckoned as the main engine of economic growth and improvement of global environment.

BRICS grouping brings forth a collective potential to drive the global economy and generate high aggregate demand or market potential. BRICS is well placed to become the dominant economies in the world in coming decades due to a large population base, sustained GDP growth, notable agrarian economies, natural resources, human resources and a vibrant service sector *(See Table-1: Historical Share of BRICS Countries in World GNP (percent) 1997-2017 and Table-2: Historical & Projected Annual Growth Rates of GNP per capita (percent per annum)*

BRICS-Global Trade

The value of trade in goods is virtually equal in developing and developed countries, whereas about two thirds of trade in services originated from developed countries. BRICS has emerged as an important strategic block in global trade with a rising share in global merchandise exports and imports in the face of declining shares of developed countries. Within BRICS, most of the contribution to global merchandise trade as come from China, followed by India. Even in terms of intra-BRICS trade, China leads the way. In manufacturing exports, which is an indicator of industrial competitiveness, BRICS has surpassed USA in terms of its share in global manufacturing exports. *See Graph – 1: Share of BRICS in Global Merchandise Trade (2000-2016)*

Global trend of e-commerce

Global e-commerce transactions will continue to grow steadily and gradually shift towards emerging regional markets, due to rapidly growing internet users and innovation capacity, and so BRICS will continue to figure prominently in global trade. For a large number of tech-savvy population, e-commerce provides convenience of online e-business from anywhere, out of home or office. Online e-commerce transactions saves time and reduces the inconvenience of travelling, parking, waiting in queue, stressful dealings with sales people. The benefits of e-commerce cut across various sectors from agriculture to services, especially in the e-commerce related value chain covering logistics, warehousing, transportation, IT support services. Another important benefit is creation of several job opportunities involving web developers, network and computer systems administrators, computer-systems analysts, software developers *(See Diagram -1: Share of Online shoppers, BRICS vs Other countries)*

Brics- E-Commerce Ecosystem

The E-commerce value chain consists of multiple mainstreams involving specialized skills and capabilities, and develops gradually and takes place in three stages:

- The start -up and early stage, the information release platform with tools and channel functions
- The early growth stage which is the trade service platform and value chain formation.
- The established growth stage which is the information integration service platform with value chain extension

E-tailers, by engaging digital marketing and data analytics, can help the customers in decision making for purchase of a right product at the right time. Today customers find a lot more information and wider market access facilitated by ICTs and e-commerce. The cost structure is also influenced due to elimination of the intermediaries. Within BRICS, the retailers are shifting from offline trading to online trading due to rapid development and popularization of e-commerce.

The analysis of the BRICS e-commerce ecosystem indicates that certain challenges are common to all BRICS countries like bureaucratic procedures, socio-political barriers, unfavourable tax regimes, underdeveloped delivery infrastructure, a lack of e-commerce skills and ability to compete with established companies, and inadequate mechanisms for ensuring privacy and security of data. Other potential barriers for development of e-commerce industry are inadequate ICT infrastructure and literacy for use, limited use of debit/credit cards, and lack of purchasing power, reliance on cash purchases due to underdeveloped financial system, a weak legal and regulatory framework, and cultural preferences among others.*(See Diagram 2: Areas of concern for strengthening E-commerce within BRICS)*

In India, there is a lack of trust among Indian buyers when it comes to online transactions and e-Payments. However, a draft national e-commerce policy to improve the regulatory environment for e-commerce business transactions has been prepared and shared by the Govt. of India in June 2019. The draft policy addresses major regulatory issues in e-commerce sector like data management, infrastructure

development, marketplaces, boosting digital economy and export promotion. For China, lack of unified cross-border standards for product inspection and unified regulations to handle disputes arising out of cross-border transactions are major factors affecting cross-border trade. In South Africa, cost of data is one of the highest in the world and SMEs lack access to finance, leading to serious drawbacks in e-commerce environment. Brazil is facing a challenging economic situation. In Russia language barriers and slow delivery are obstacles to the growth of cross-border trade. *(See Table -3: Comparative Demographics – BRICS 2017)*

In order to strengthen capacity building for e-commerce development in BRICS, it is necessary to promote adoption of efficient e-Payment solutions, strengthen the legal framework, establish an infrastructure for countering cyberattacks, enhance consumer protection legislations and data regulations and establish a mechanism for cooperation among private sector entities to explore the linkages between trade, investment and financial services.

Internet Penetration & Connectivity

In 2017, the total number of Internet users in the BRICS countries exceeded 1.45 billion, accounting for about 42 percent of the global Internet users. The total number of online shopping users exceeded 840 million, and the online retail transaction volume of 1,185 billion US dollars accounted for about 52 percent of the total online retail sales. Internet users are mainly educated urban segment of the population; however, due to cheap availability and easy access to smart phones, the trend is gradually shifting toward rural areas. Internet penetration has a strong correlation with e-commerce development and owing to connectivity divide between urban and rural areas, businesses based in urban areas had higher connectivity in comparison to those based in rural areas.

Today India has over 560 million internet users, second only to China, and it is expected that by 2021 there will be 600 million internet users in India. However, there is a need to rectify disparity between male and female internet users. The female population in India using internet is the lowest at about 30 percent compared to other BRICS countries estimated at 42-52 percent. India has a sizable population of young internet users compared to other BRIC economies. High retail spenders in the age group of 35 years and above are still more comfortable shopping offline than online. Although more and more people in India have started using e-commerce portals, but it may not always result in purchases due to barriers like network connectivity and speed. For growth and development of e-commerce industry within BRICS, It is very important to establish an infrastructure with high mobile or fixed broadband speeds at affordable price. Except China, all other BRICS nations have broadband speeds less than world average of about 72 Mbps. *(See Table-4: Internet Penetration 2017 -18, & Table-5: Internet Speed Mbps Nov 2019, within BRICS)*

BRICS: Cross-Border E-Commerce

In the era of more interdependence and international relations BRICS can play a meaningful role although member countries are composed of varied political systems from different subcontinents. Through the BRICS forum member countries are coming closer beyond their boundaries for regional cooperation in various fields like Trade, Science and Technology among others. Very recently, India and Brazil signed agreements for bilateral trade of USD 15 billion by 2022, covering various sectors including co-operation in Science and Technology.

The cross-border retail transaction in BRICS was US$ 129.6 billion, accounting for 24.5 percent of the total global cross-border network retail sales. China is world's largest online retail market with 533 million online shoppers. India has a demography similar to that of China with a huge potential. Russia's cross-border e-commerce development is becoming an important driving force for its development. The favourable demographics with increasing affinity towards internet use, and a huge population of younger generation with growing aspirations encouraging consumption pattern, is complimentary to the growth drivers of e-commerce in BRICS. Other factors being increasing literacy, upgradation of the consumer class, growing purchasing power, changing consumer behaviour, increasing use of plastic cards, better banking facilities to the rural population. It is necessary to consider the diversified culture and languages of prospective customers in the BRICS region and to cater to the emerging non-English speaking internet population efficiently, by making available customer support in local languages. Websites sites and Apps in regional languages will help e-tailing accessible to a huge untapped rural population and thereby avail a potential market opportunity. *(See Table- 6: Cross border Shopping / Purchases within BRICS 2017)*

E-commerce cross-border dealing takes place in different forms and procedures, involving different types of players. Transactions across the border continues to improve rapidly in global trade with improvement in Internet and transportation infrastructure, introduction of innovative technologies in logistics, ICT, IOT and AI. Major challenges facing e-commerce measurement in BRICS include issues related to Customer Service, Distribution and Logistics, mode of payment, Personalization vs. Privacy Issues. Other limitations being easy access to the Internet, legal Issues, inadequate availability of reliable statistics in cross-border transactions, questionable methods of estimation, difficulty in measuring transactions of informal nature happening through social commerce. Very few countries collect information of cross-border E-commerce or distinguish between domestic and cross-border. It is necessary to develop capacity of handling

large data and analytics to retain the competitive advantage. *(See Graph-2: Global Exports of Manufactured Products, BRICS Vs Advanced Countries as of 2016)*

With the aim of leveraging the huge potential for a vibrant e-commerce industry within BRICS and maximize its benefits, Policy makers to focus on possible indicators like logistics performance index, e-governance index, ease of doing business in order to assess the e-commerce environment in their countries. In 2019, India moved forward 5 places to be 52nd in global innovation index (GII) and jumped 14 places forward to be 63rd among 190 countries. *(See Table-7: Ranking worldwide BRICS countries)*

Role of Innovation

An Innovation-based growth can help respond to socio-economic and environmental issues within BRICS and so a strengthening cooperation amongst member countries in this area is crucial. For mutual benefits and growth of inter-country trade, member countries within BRICS should collaborate with each other and with established players in developed countries to acquire innovative technologies. At the same time, disproportions within BRICS has to be overcome by addressing common challenges like diversity in culture, varied language preference in each country, inefficient use of natural resources, low business engagement in innovation and of course commercialisation of R&D (Gokhberg L., Kuznetsova T. and Zaytseva A., 2012).

E-commerce has become one of the most dynamic economic activities within the BRICS countries as more and more people are going online in urban and rural areas. E-commerce projects work with a focus on quality, reputation and product diversification. Almost every consumer product and services are available through e-commerce channels operated by established e-tailers like Amazon, Alibaba, eBay, Walmart, shopify, JD.com, Flipkart, Snapdeal and many others. Business consultants, lawyers and other service providers also use these alternate e-com channels to provide customer services.

In order to boost e-commerce activities within BRICS, manufacturers and e-retailers should adapt to latest technologies and innovations pursued by developed and advanced countries. For an effective innovation management, it makes sense for the member countries to enhance R&D activities, collaborate or outsource R&D from developed countries and commercialize R&D. Induction of technology in service sector has also resulted in faster growth of e-commerce industry. E-commerce is the new engine that leverages innovation and advancements in the field of digital technologies such as high-speed Internet, Smart phones, Artificial Intelligence, 3D printing, Big Data Analytics, Augmented & Virtual Reality, Secure digital payment methods. Easy access to ICT, logistics processing and online networking are other parameters for a sustainable e- commerce platform. Innovative technologies introduced in the e-commerce industry helps the consumers to make informed choices and easier comparisons across broad product categories at minimum cost and offers flexibility in transactions or dynamic pricing mechanisms.

BRICS nations can improve their technological competency by way of cooperation and collaborations. According to the World Bank data, in the member countries strength of researchers working in R&D areas showed diverse trends, although together they hold, worldwide, significant share in most of the parameters like R&D expenditure, number of researchers per million of population, articles published in scientific and technical journals, and their share of high-tech exports. After various rounds of discussions, BRICS countries have come together to establish agreements for cooperation in several areas of operation including trade, Innovation, science and technology. During BRICS summit in China 2017, an action plan was formulated for Innovation cooperation aimed at strengthening cross-border investment in Science, Technology and Innovation including public-private partnership, strengthening technology transfer and transformation, synergizing industry-academia-research, supporting young scientists and entrepreneurs to share the best practices in innovation and entrepreneurship. The New Development Bank formed by BRICS member countries has already established a working group on Innovation Financing. These steps are in the right direction for furthering R&D cooperation to consolidate the position of the BRICS Bloc as an 'Innovative Bloc' of the world (Iyer, P 2019).

BRICS- Global R&D Rankings

BRICS grouping is reckoned as R&D powerhouses due to their comparatively high-ranking global Innovation index and high share in parameters measuring technological competency. Brazil, China and India improved their global ranking in innovations although Russia has the highest and India the lowest in deployment of number of R&D personnel per million population, one of the measures which reflects the R&D and innovation orientation of a country. There is considerable improvement in other indicators also like Trademark, Design applications, Patents filed, and Articles published in Scientific Journals. Worldwide BRICS has a share of 40 percent of trademark applications (34 percent of trademark registrations), 41 percent of design applications (36 percent of design registrations), 41 percent of patents filed (25 percent of patents granted), and 29 percent of articles published in scientific and technology journals globally (Iyer P, 2019)

(See Table – 8: Global Innovation Index of BRICS)

BRICS countries are not leading players as far as high-tech manufacturing and exports are concerned, a critical indicator of technological development of nations, although

they are emerging increasingly with a greater share of hi-tech exports worldwide. The share of high-tech exports of BRICS (excluding China) is lower than the world average of about 18 percent in manufactured exports, having exported US$ 527 billion worth of high-tech goods in 2016.

Innovative Technologies for development of E-commerce

The emphasis in the e-commerce industry has always been on the convenient shopping experience of the buyer. Major e-commerce players are focus on new avenues to simplify the ordering process and shorter delivery period. Technological innovation is the key focus area for the enterprises to stay competitive and offer a convenient online shopping experience in future. Technology, Internet access and speed, Infrastructure for easy collection or transfer of payments securely, plays a crucial role for online retail industry. Other challenges faced by the e-commerce industry are computer illiteracy, social and cultural attitudes.

The diverse payment options like **E-wallets**, credit / debit cards and payment gateways are popular modes of electronic payments and these Integrations simplify the payment process. Synchronizing the bank accounts with digital wallets provides easy and simple electronic transactions and many online payment services like PayTm, PayPal, Google Wallet, Amazon Pay and many others are popular and secured gateways for this purpose.

The dynamism of e-commerce within BRICS gets restricted due to important issues like slow transactions, lack of e-commerce legal framework or security issues, digital data ownership, and lack of trust or privacy concerns, as the consumers do not like use of their personal data.

Blockchain Technology is the new data security & payment method to build trust in online payments. E-commerce giant 'Amazon' created an innovative customer support base by storing all data entered into a blockchain indefinitely. The record of the transaction history is available and remains intact irrespective of the volume of sale or purchase. Cryptocurrency like Bitcoin provides a new payment method by excluding fraudulent transactions.

An innovative tool called **Chatbots** is a software technology used to imitate written or oral real human interactions as an online conversational agent. The transactions between the buyer and the seller through a common platform is informative and the previous transactions can be used to place orders online. Properly deployed chatbots enhanced by automation features can be responsive and can interact with customers efficiently. E-tailers save a lot of time and money by using this voice assistance technology, as automated customer support, day and night. Travel agencies, Hoteliers, office supply retailers and many others use chatbots extensively to offer their services and products based on previous order history.

Voice Assistants, a modified word of mouth, is becoming an increasingly popular voice search. E-commerce giant 'Amazon' enabled this technology of virtual e-commerce in its voice assistant popularly known as 'Alexa', which is housed in smart speakers or other devices at home. This digital Assistant is used for various services including order placement by voice command. In India 'Alexa' is available in Hindi language also. 'Times of India' reported that greater number of Indian customers are interacting with Alexa, more than 10 million times each week, much higher that UK or US. India is among the top five users, of Alexa globally, which has seen 270% growth year on year in voice searches. It is expected that over a period of time market players using this technology will have an advantage over others. Amazon also introduced a device called **Dash Button**, which offers easy placement of orders for regularly purchased goods, when the same is placed at a place storing regularly purchased goods.

AR and VR (Augmented & Virtual Reality) is an innovative shopping experience. Using these technologies e-tailers can display their products in such a way that is comparable to the real-life experience. These technologies are capable of building an entirely new artificial reality and could change the future of online shopping experience. AR is a system with basic features to virtually interact, including real time interaction using 3D display of virtual and real objects and thereby the combining real and virtual worlds.

In order to boost up e-commerce logistics in delivery and distribution is a concern of both buyers and sellers. From the point of view of delivery time and product safety and sometimes-high shipping and handling costs. New technologies like **Drones & Droids** are the next-level robot delivery system to bring about radical changes in buying and selling experience online, by offering prompt delivery of ordered products within a day.

The future of e-commerce automation shall lie in **Drones** cruising above ground, in the sky, carrying up to 3 kilograms of weight, with a range of 15 miles and an average speed of about 50 mph. Major companies in western world are currently building specifically designed Drone Ports. **Droids** travelling on ground are unmanned delivery vehicles generally mounted on small wheels, carrying a weight of upto 10 kgs, travelling slowly on sidewalks are particularly useful to speed up last mile deliveries to customer doorstep, at a lesser cost. Droids are also environment friendly with practically no vehicle emissions. Delivery droids are already being used extensively in manufacturing plants for delivery of parts for the assembly lines, and in hotels for room delivery. Back in 2016, Domino's New Zealand delivered pizzas with the help of a drone. Domino's Pizza in Australia has created a robot for order deliveries, promptly, by avoiding traffic congestion.

Beacons are often used by retail stores to transmit Bluetooth signals to nearby smartphones, through specially designed Apps designed to provide customer services by

way of sending birthday alerts, loyalty program updates or personalized promotions. As soon as the customer walks into the store and spends some time inside a particular department, the App would send a message with an offer related to that department.

Mobile Commerce

Mobile proliferation has been a key driver for e-commerce in all countries including India. Mobile- commerce also known as 'M-commerce' uses smartphones or tablet applications to buy or sell products online. India has become the second largest smartphone market in the world, next to China, overtaking US in 2019. In advanced western countries like Europe and the United States, about 70 percent of B2C e- commerce transactions originate through mobile smartphones whereas in China, nearly 40 percent of buyers use mobile terminals and mobile e-commerce is fast becoming the norm within BRICS countries. Mobile smartphones and Social sites are major trends influencing people across the BRICS countries and availability of 4G /5G services and low-cost data plans are boosting up the e-commerce growth process. Within BRICS a very high percentage of internet traffic are using mobile devices and therefore the e-tailers, proactively following mobile e-commerce trends, must focus on indicators like client engagement and retention by developing specifically designed applications for the purpose of tapping the consumer. Use of intelligent mobile terminals is important to create the best online shopping experience since M-commerce is emerging as the mainstream in e-com transactions.

Social Commerce

In order to create personal relationships via social media, which has now become a part of our daily activities, e-tailers strive to stay in touch effectively with their consumers clients through social networks. Social-commerce, considered a subset of e-commerce, technology is integrated with social media to exploit the social networks for online shopping transactions. The fastest growing segment of the Internet is the number of mobile social media users as people use smartphones to link social media like WhatsApp, Telegram, Twitter, Facebook, WeChat etc.,making social media increasingly prominent in e-commerce activities. Shopping online through social media platforms will become more and more common as the impact of social media intensifies on our daily life. Trends like 'instant online celebrities' and 'live video streaming' indicate that the integration of social media and e-commerce is deepening. For example, 'Facebook' and 'Instagram' use the combination of e-retail and social media, which has resulted in evolving P2P marketplaces. E-tailers are exploiting the market opportunity through social media to increase their market share and revenue. 'Amazon' and 'eBay' use the benefits of e-commerce to buy and sell mass-market goods online. India's biggest e-tailer 'Flipkart' is valued US$ 2500 million. Social e-commerce growth rate is expected to increase rapidly in the next 5 years and may share more than a quarter of the total e-commerce market (Lastovetska A, 2018). According to a report published by Statista Research Department in Jan 2020, there are about 310 million active social media users in India, including 59.6 million unique Facebook users and monthly 200 million active WhatsApp users.

Summary:

Emerging economies are attractive source of business opportunity, cheap consumer goods and opening of new job opportunities. The BRICS grouping with favourable demographics and strong R&D base must come closer and work together to develop the e-commerce industry within and globally. For a sustainable integration to the global economy, BRICS countries will have to address the failures of their national innovation system by way of multilateral cooperation and using cumulative expertise for mutually beneficial development of R&D centres, encouraging technology alliances and technology transfer. Also, a framework to promote the links between R&D and industry, commercialization of technology innovations and establish public-private partnerships. The Infrastructure for collaboration must protect intellectual property rights. BRICS nations lag behind advanced countries in worldwide ranking and must focus on bringing about some improvement in possible indicators of a vibrant e-commerce environment like logistics performance index, e-governance index and ease of doing business.

Technological innovation is the key focus area for the enterprises to stay competitive and offer a convenient online shopping experience in future. E-commerce is the new engine that leverages innovation and advancements in the field of digital technologies. Technologies engaged in Digital marketing, EDI and automated data collection, online transaction processing, supply and inventory management systems are important aspects for growth of e-commerce. The focus area should be effective innovation management. Manufacturers and e-retailers should adapt to latest innovative technologies , collaborate or outsource R&D from developed and advanced countries, and commercialize R&D. Mobile and Social e-commerce is playing an important role and e-tailers stay in touch to create personal relationship with the consumer by way of integrating innovative technologies with social media.

BRICS to work out a policy in order to ensure a strategic, coherent and operational framework for developing Science, Technology and Innovation in order to compete with advanced countries. Several rounds of discussions have taken place with International Organizations on capacity building and policymaking. BRICS Business Council together with the World Bank Group and New Development Bank (NDB) to support entrepreneurs and R&D work.

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Annexure -1

Table-1 : Historical Share of BRICS Countries in World GNP (percent) 1997-2017

	1997	2007	2017
World	**100.0**	**100.0**	**100.0**
USA	23.0	20.8	18.2
Europe	27.0	23.3	19.1
Other Developed Countries	14.5	12.5	10.8
BRICS	15.4	21.9	30.4
Other Emerging Countries	17.7	18.9	18.4
Developing Countries	2.4	2.6	3.2

Data Source: CAM World Databank (WD) NDB report 2017

Table-2 : Historical and Projected Annual Growth Rates of GNP per capita (Percent Per Annum)

	2008-17	2018-22	2023-30
World	**1.7**	**2.4**	**2.5**
USA	0.7	1.4	1.3
Europe	0.6	1.5	1.8
Other Developed Economies	0.8	1.2	1.4
BRICS	5.4	4.7	4.5
Other Emerging Economies	1.1	2.8	2.8
Developing Economies	2.6	2.5	2.9

Data Source: CAM World Databank (WD) and Baseline Scenario

Annexure -2

Table -3: Comparative Demographics – BRICS (2017)

Country >	India	China	Brazil	Russia	South Africa
Area (million sq km)	3.3	9.59	8.5	17	1.22
GDP (Billion USD)	2652	12062	2053	1579	349
GDP/Capita (USD)	2013	8677	9818	10741	6123
YoY GDP Growth Rate percent	7.17	6.8	1.06	1.63	1.32
Population (million)	1317	1390	207	147	57
Internet Users (Million)	462	772	149	110	39
Percent Population 01-14 Yrs	28	16.8	21.68	18	16.4
Percent Population 15-64 Yrs	66	71.8	69.74	68	37.5
Percent Population 65 Yrs +	6	11.9	8.92	14	3.1
Urban Population (Million)	456	814	179	109	37.5
Rural Population (Million)	861	577	28	38	19.5

Source: E-com Foundation report (2018), Statista report (2018)

Table-4: Internet Penetration (2017 -18) within BRICS

Country	India	China	Brazil	Russia	South Africa
Internet users (percent population)	40	55.7	74	73	65
E-shopper Population (million)	224	586	60	50	19
E shopper Penetration (percent)	48	64	45	47	57

Source: Ecom Foundation Report (2018), report on state of internet (2017)

Table-5: Internet Speed In Mbps (Nov 2019):

	Mobile	Fixed Broadband
World	30.93	71.55
Brazil	23.8	47.75
China	58.44	108.28
India	11.23	38
Russia	20.38	60.23
South Africa	34.91	27.92

Source: www.Speedtest.net

Annexure -3

Table- 6: Cross border shopping/ purchases within BRICS (2017)

Country ->	Brazil	Russia	India	China	South Africa
Domestic only, percent	52	30	66	57	38
Domestically & cross-border , percent	42	56	27	35	50
Cross border only, percent	8	14	7	7	12

Source: E-com Foundation report 2018

Table-7: Ranking worldwide (BRICS)

Country ->	Brazil	Russia	India	China	South Africa
Logistics performance Index	56	75	44	12	33
Ease of doing business index	124	28	63	31	84
E-Governance Index	44	35	96	65	68

World Bank report 2019 (data.worldbank.org)

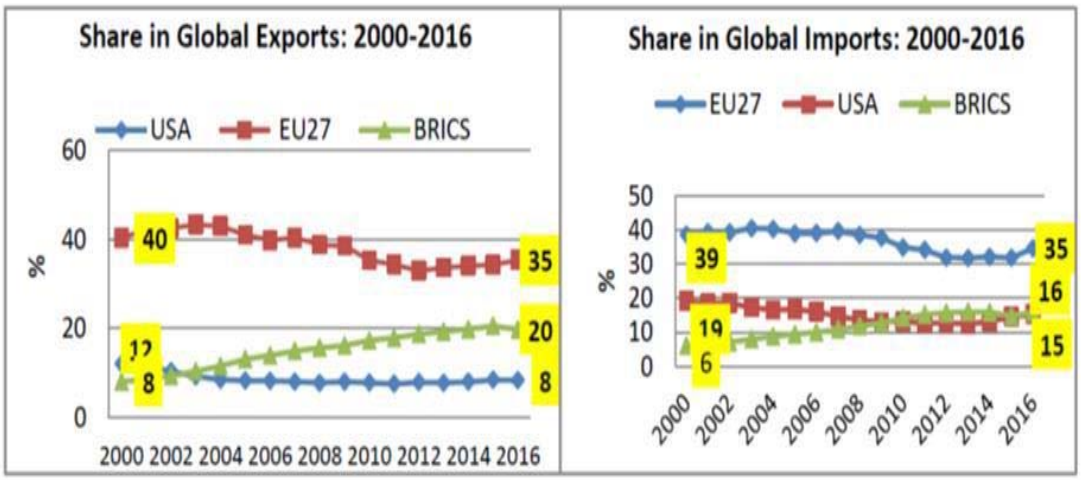
Table – 8: Global Innovation Index of BRICS

Country	Personnel engaged in R&D Per million population	Global Innovation Index 2017	Global Innovation Index 2018
Brazil	700	69	64
China	1200	22	20
India	250	60	57
Russia	1300	45	46
South Africa	450	57	58

Source: Cornell SC Johnson College of Business, INSEAD, and WIPO, compiled 2018

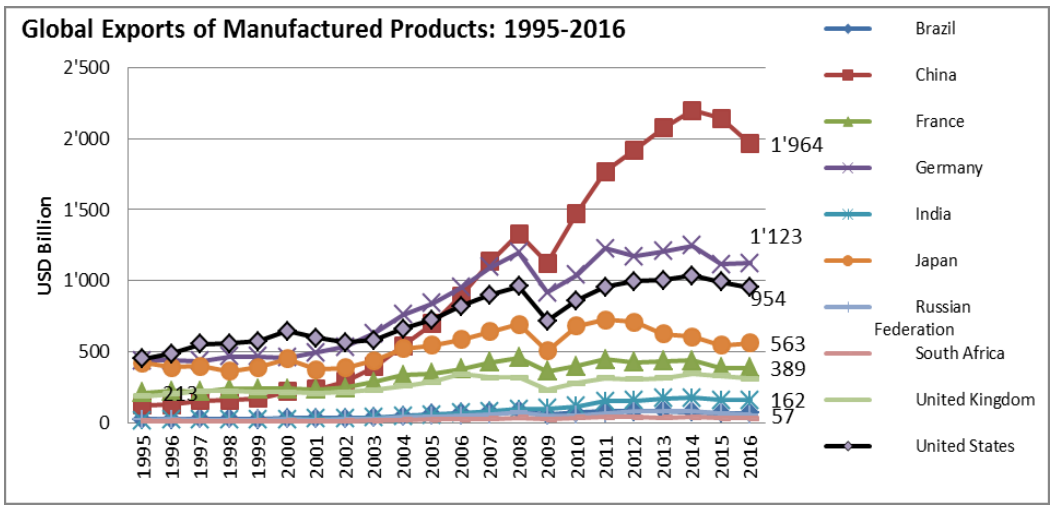
Annexure -4

Graph – 1 : Share of BRICS in Global Merchandise Trade (2000-2016)



Source: World Integrated Trade Solutions, COMTRADE

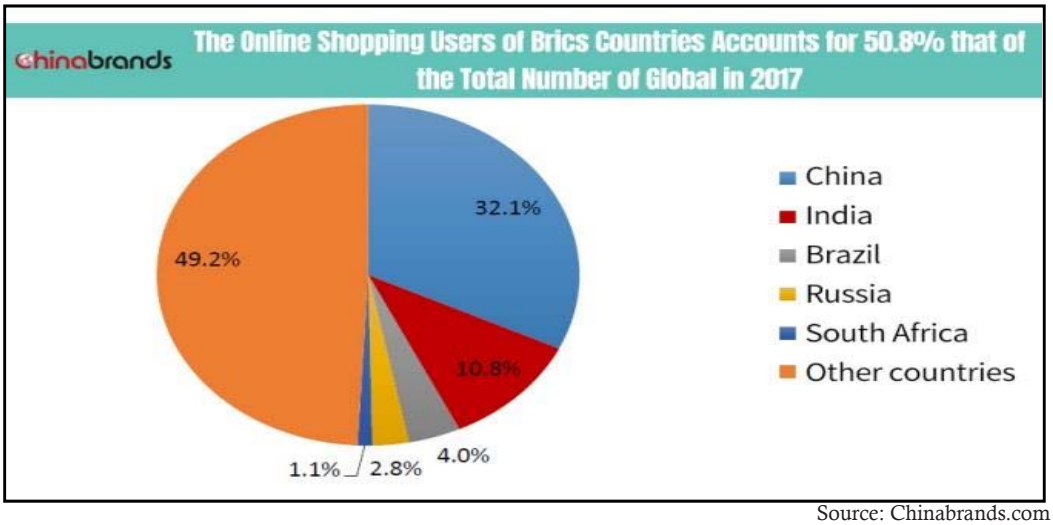
Graph-2: Global Exports of Manufactured Products, BRICS Vs Advanced Countries as of 2016



Source: UNCTADSTAT

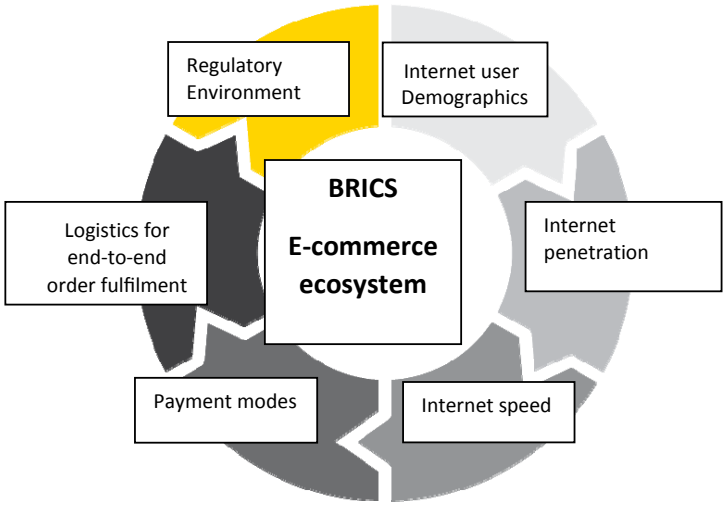
Annexure -5

Diagram -1 : Share of Online shoppers BRICS vs Other countries



Source: Chinabrands.com

Diagram – 2: Areas of Concern - E-Commerce In BRICS



Source: E & Y white paper on BRICS ecosystem, 2015

GJEIS Prevent Plagiarism in Publication
The Editorial Board had used the turnitin tool to check the originality and further affixed the similarity index which is {13%} in this case (See below Annexure-I). Thus, the reviewers and editors are of view to find it suitable to publish in this Volume-12, Issue-1, Jan-March, 2020.

Annexure 1

Submission Date	Submission Id	Word Count	Character Count
13-March-2020	127745396 (Turnitin)	4866	32559

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Reviewers Comment

Reviewer Comment 1:
The notion behind the paper is commendable that is to analyse the performance of the BRICS countries in cross border trade, with reference to ease of doing business.

Reviewer Comment 2:
The paper made an appreciable attempt for a comprehensive review and analysis of performance of the BRICS countries in cross border trade, with reference to ease of doing business, e-governance and logistic performance index.

Reviewer Comment 3:
The paper is well structured. Different concepts have been covered under different heads which give clear understanding to the readers.

Reviewer Comment 4:
The paper has collected comparative data through literature survey which was analysed and compiled to highlight the current business scenario and BRICS contribution in world trade.

Citation

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Conflict of Interest: Author of a Paper had no conflict neither financially nor academically.

Editorial Excerpt

At the time of submission, the paper had 13% of plagiarism which is an accepted percentage as per the norms and standards of the journal for the publication. As per the editorial board's observations and blind reviewers' remarks the paper had some minor revisions which were communicated on timely basis to the authors (Amarnath &Padmakali) and accordingly all the corrections had been incorporated as and when directed and required to do so. The comments related to the manuscript are related to the theme "Innovation and E-Commerce in BRICS" both subject-wise and research-wise. The challenges, opportunities and the e-commerce ecosystem within the BRICS grouping have been reviewed and examined how Innovation and Technology can help the BRICS group, develop and enhance the cross-border trade through e-commerce. The paper is well written and some important considerations are highlighted. Overall, the paper promises to provide a strong base for the further study in the area. After comprehensive reviews and editorials boards remarks the manuscript has been decided to categorise and publish under the "Theme Based Paper (TBP)" category.

Acknowledgement

The acknowledgment section is an essential part of all academic research papers. It provides appropriate recognition to all contributors for their hard work. The data presented and analyzed in this paper were collected first handedly and wherever it has been taken the proper acknowledgment and endorsement depicts. The author is highly indebted to the co-author and others who had facilitated in accomplishing the research. Last but not least endorse all reviewers and editors of GJEIS in publishing in a present issue.

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