

# COMPETITION AMONG BRICS COMPANIES FOR CLEANER PRODUCTION STRATEGIES

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## ABSTRACT

*Cleaner production is a universally defined policy ascertained by of the United Nations for countries worldwide. Multinational companies diligently emphasize the cleaner production strategy while setting their organizational goals. Keeping in view the importance of cleaner production in the world; this study investigates the vision and mission statements of selective multinational companies working in the BRICS countries. Top five multinational companies from each BRICS country; listed in the stock exchanges were taken and their vision and mission statements were analyzed via content analysis methods. The results of the study indicated that the Russian multinational companies were found to be most focused on the cleaner production strategies in their vision and mission statements. Moreover, the results reveal that the South African companies gave the least attention to the cleaner production as compared to other BRICS countries. This study opened the door for future studies and suggested the researchers to investigate more ineptly while focusing more countries and to expand the topic to know the universal implementation of cleaner production policies.*

**Keywords:** BRICS; Cleaner Production; Vision; Mission; Multinational Companies.

## INTRODUCTION

In today's world of competition, cleaner production has become a slogan of multinational companies to attract the attention of societies and to market their products (Moors, Mulder, & Vergragt, 2005). Companies specially arrange different programs related to cleaner production issues (Baas, 1998). Majority of the multinational companies formulate policies in practice to take part in sustainable production (Moors et al., 2005). The best way to know, which companies are more emphasizing on the cleaner production practices; is to study the vision and mission statements of the companies

(Lee, Barker, & Mouasher, 2013). Vision and mission statements are basically the face of companies, which they show to the general public (Velazquez, Munguia, Platt, & Taddei, 2006). Many countries develop their strategies according to the vision and mission statements which they usually share with the public for better communication (Campagna & Fernandez, 2007). Keeping in view the importance of cleaner production for society and to better know the current state of cleaner production and sustainability adoption, this study was conducted specially for BRICS countries to know the thematic issues highlighted in the vision and mission statements of the multinational companies operating in BRICS.

BRICS stands for some most major emerging national economies: Brazil, Russia, India, China and South Africa (Stuenkel, 2015; O’neill, 2001). This economic bloc has a high and significant influence not only in the region but all over the world (Wilson & Purushothaman, 2003). Every year this group conducts different meetings to discuss the prospects of better trade and to strengthen other relations (Roberts, Armijo, & Katada, 2018). Looking at its geographical composition the BRICS countries nearly cover and represent every continent of the world that is, Brazil in the Americas, Russia in the Europe, India and China in the Asia and South Africa in the African continent (Halkos, Managi, & Tsilika, 2017; Vijayakumar, Sridharan, & Rao, 2010). According to an estimation, the geographically covered area by the BRICS countries is nearly 39,000,000 square kilometers that is about twenty seven percent of the world’s total geographic land area (Kirton, 2018). Moreover, the BRICS countries possess a very significant and influential role in the decisions taken by United Nations for business environmental issues (Nilsen, & Holdt, 2018; Keukeleire & Hooijmaaijers, 2014), as two of the BRICS countries, China and Russia are the permanent members of the UN Security Council (Ferdinand, 2014).

To know the current situation of the BRICS countries regarding insinuation of cleaner production processes, five multinational companies from each BRICS country, listed in the popular stock exchanges were selected. To examine whether the cleaner production practices the part of the organizational strategy, the vision and mission statements of the five companies from each BRICS countries were selected and analyzed. The data analyses present interesting outcomes and conclusions.

## **LITERATURE REVIEW**

Cleaner production is a strategy to prevent emissions from the

production sources and to initiate a continuous preventive improvement of the environmental performance of the organizations (Glavič & Lukman, 2007). To maintain the production standards and meet with ever emerging market dynamics, many companies today follow the ISO standard rules to protect the environment (Epstein, 2018). Previous research studies assert that implying the cleaner production processes and the ISO 14001 standards complement well, as the companies follow the cleaner production policies approved by the international standards (Tomic & Spasojevic Brkic, 2018; Fresner, 1998). Silva, Delai, de Castro, and Ometto (2013), proclaimed that cleaner production is a set of policies and an approach of organizations to minimize the waste and to protect the environment. In literature, the concept of cleaner production strongly emphasizes on the environmental sustainability and its social benefits (Silva et al., 2013). However, Zwetsloot (1995) stressed that cleaner production policies should be internationally standardized like other organizational processes such as the quality management (Fresner, 1998), and the health management (Petek & Glavic, 2000). In some studies, cleaner production is described as to increase efficiency by reducing waste, following eco-friendly production processes and promoting extensive ecotaxation of inputs and non-product outputs (Reijnders, 2003).

The cleaner production concept was first introduced during the preparation of the Rio Summit as a pervasive agenda of the United Nations Environmental Program (UNEP), and the United Nations Industrial Development Organization (UNIDO) (Luken, Van Berkel, Leuenberger, & Schwager, 2016). Recently, China and many other countries have already developed the strategies for cleaner production adoption (Pesce et al., 2018), after the United Nations conference on environmental development in 1992 where the key elements emphasized on a new policy framework for industrial development and environmental protection (Luken et al., 2016). Thus, the ever-increasing significance and occurrences of the repercussions of climate change accentuate the importance and the urgency to learn production efficiency which reflects upon the strategies towards sustainable societies (Yong et al., 2016)

### **Cleaner Production Trends in BRICS**

Some of the BRICS countries already have developed strategies for sustainable urbanization practice and cleaner production (Shen, Shuai, Jiao, Tan, & Song, 2017). Oliveira Neto et al. (2016), suggest that there is a

strong association between organizations and government to formulate the cleaner production policies regarding sustainable environment concerns.

Moreover, a study by Bonilla et al. (2010) and Oliveira Neto et al. (2016), concluded that the application of cleaner production practices in Brazilian companies is not usual and there is a need to establish significant partnerships among institutions and the government to foster the cleaner production concept. The research further asserted that the rapid research work in the area of cleaner production and its impacts on the environment and industrial activities has enabled the development of cleaner production plan of actions (Oliveira Neto et al., 2016). The research also indicates that due to some highly cited research work recently published in journals in Brazil put forward the study on cleaner production and emphasizes on its emerging significance (ibid).

Regarding the cleaner production strategies in Russia, it has been observed that the government has developed many institutions to regulate the Russian companies regarding sustainable and clean production. Among these regulating institutions; the National Cleaner Production Centre of the Russian Federation works actively to regulate and monitor the cleaning production processes (NCPC, 2018). The National Cleaner Production Centre of the Russian Federation also has partnered with the United Nations Industrial Development Organization to encourage cleaner production strategies. However, the current situation in Russian companies about the adoption of cleaner production is still a challenge (Thompson, 2018). National Cleaner Production Centre - NCPC (2018), proclaims that in Russia the cleaner production programs were implemented within the framework of the Russian-Norwegian co-operation based on the appropriate intergovernmental agreement of 1992. The reports published in this regard show that Russian companies secure the third place amongst the five BRICS countries in adopting environmental efficiency and cleaner production policies (de Castro Camioto et al., 2016) and implementation of environmental sustainability (Nikolayevich & Yuryevna, 2015). Moreover, the strategic goal of the Russian government environmental policy up to 2030 proclaims that the socio-economic tasks could be attained by upholding the environmentally-oriented growth of the economy (President of Russia, 2012). Thus, the cleaner production strategies have become a vital feature of the new model for the national economy (Bobylev, Kudryavtseva, & Yakovleva, 2018).

As far as the Indian environmental ranking is concerned, the country is amongst the topmost populist countries where environmental pollution is extremely high and makes it a challenging job for the government and non-government organizations to combat with the issue (Duflo, Greenstone, Pande, & Ryan, 2018; Smith, et al., 1994). However, recent researches conducted on the subject in the Indian context illustrate inclination of cleaner production practices in the country. Unnikrishnan and Hegde (2007), assert that nearly half of the firms in India have undergone the training in Environmental Management System (EMS) and took an active part in cleaner production programs. Moreover, Mohanty and Prakash (2014), state that the Indian firms' toady, face significant pressures from external stakeholders to adopt the green supply chain management practices, which accords with the cleaner production approach.

Previous studies state that cleaner production strategies and plans were introduced in China in the early 1990s through development aid projects (Hicks & Dietmar, 2007). The studies also show that the CP plans in China were more focusing on methodology and practices from 1992 to 1997 than in other years (Mol & Liu, 2005). After 1997, the methodological research and investigation were shifted into cleaner production policy-making like Cleaner Production Promotion Law in 2002 (ibid.). These type of laws are effective in China nowadays and compel the organization to take the environment seriously while producing commodities (Zhan, Tan, Ji, Chung, & Chiu, 2018).

In this context, to implement and regulate companies in South Africa, the National Clean Production Center of South Africa is playing a dynamic role (CSIR, 2018; UN, 2018). Recent studies show that South Africa is going well while regulating its companies for cleaner production (CSIR, 2018). The NCPC-SA was launched during the 2002 Johannesburg World Summit for sustainable development as a co-operation program between South Africa and the United Nations Industrial Development Organization with financial assistance from the South African Department of Trade and Industry and support from the governments of Austria and Switzerland (UN, 2018). This program is actively working to provide guidance to the South African companies to regulate the cleaner production policies (UN, 2018).

### **Using Vision and Mission Statements as Comparison Indicators**

In this study, the comparison of vision and mission statements of the companies was undertaken (O'Gorman & Doran, 1999). In the previous literature, few studies have used the companies' vision and mission

statements to reflect explore strategic level comparative studies (Campagna & Fernandez, 2007). Kantabutra and Avery (2010), postulate that the vision and mission statements are the faces of companies. To implement the main ideas and to run the projects; companies always use vision and mission statements (Collins & Porras, 1996). In other words, the vision and mission statements are the core of the company policies on which the projects are initiated (Wilson, 1992).

### RESEARCH METHODOLOGY

To examine the degree of espousal and consideration of cleaner production policies by the multinational companies in the five BRICS countries, the vision and mission statements of five selected companies from each country were collected from the websites of each company. For analyses of the selected vision and mission statements, a content analysis method was used. To conduct the analysis, the vision and mission statements were first, carefully analyzed and qualitative tools were used to determine codes to the selected terms. A careful coding helped the researcher to analyze the presence of the chosen concept, which was emphasized in the vision and mission statements. Finally, through sorting and tabulation, a summary of important points was extracted. The selected companies are the top five companies from the BRICS countries and listed in the popular stock exchanges. These companies are supposed to be the representation of the BRICS countries. All the companies which were selected are present in the list of top world stock exchanges. Table 1 shows the sampled companies' details.

#### Details about Companies and Industries

	Com-pany	Industry	Listed Stock Market	Governments Rules on CSR	Pressure Group
Brazil	1	Aerospace	NYSE and BM&F Bovespa	Available	Government and Private sector
	2	General mining	São Paulo, New York City, Paris and Madrid.	Available	Government and Private sector
	3	Iron & steel	São Paulo, New York and Madrid.	Available	Government and Private sector
	4	Consumer goods	São Paulo	Available	Government and Private sector
	5	Consumer goods	São Paulo	Available	Government and Private sector

Russia	1	Oil & Gas	MCX: SIBN, part of Gazprom	Available	Government and Private sector
	2	Manufacturing	MCX: LKOH, LSE: LKOD, OTC Pink: LUKOY FWB: LUK	Available	Government and Private sector
	3	Financials	MCX: VTBR	Available	Government and Private sector
	4	Consumer services	LSE: FIVE	Available	Government and Private sector
	5	Metals and mining	Open joint stock company	Available	Government and Private sector
India	1	Oil & Gas	Bombay Stock Exchange and National Stock Exchange of India. [25]	Available	Government and Private sector
	2	Oil & gas, industrials, consumer services, telecommunications	National Stock Exchange of India Limited (NSE) and the BSE Limited.	Available	Government and Private sector
	3	homoeopathic medicines manufacturing	BSE/NSE	Available	Government and Private sector
	4	Automobiles	National Stock Exchange of India, and the New York Stock Exchange.	Available	Government and Private sector
	5	Gold mining	BSE/NSE	Available	Government and Private sector
China	1	Petroleum & Chemical Corporation	SNP/Shanghai Stock Exchange	Available	Government and Private sector
	2	Consumer Goods	NYS/SNP	Available	Government and Private sector
	3	Financial	Hong Kong Stock Exchange and Shanghai Stock Exchange	Available	Government and Private sector
	4	Communication	NYSE and the Hong Kong Stock Exchange	Available	Government and Private sector
	5	Agriculture finance	Shanghai and Hong Kong Stock Exchanges	Available	Government and Private sector

South Africa	1	Airways	SAA, Nasdaq	Available	Government and Private sector
	2	Tele-communications	Nigerian Stock Exchange, JSE	Available	Government and Private sector
	3	Food Retail	Namibian, Zambian and Johannesburg Stock Exchange,	Available	Government and Private sector
	4	Banking	Uganda Securities Exchange	Available	Government and Private sector
	5	Broadcasting	Johannesburg Stock Exchange and London Stock Exchange	Available	Government and Private sector

### RESULTS AND DISCUSSION

The results are systematically discussed in the proceeding sections for each BRICS country. The data analysis obtained through conceptual content analysis is illustrated below.

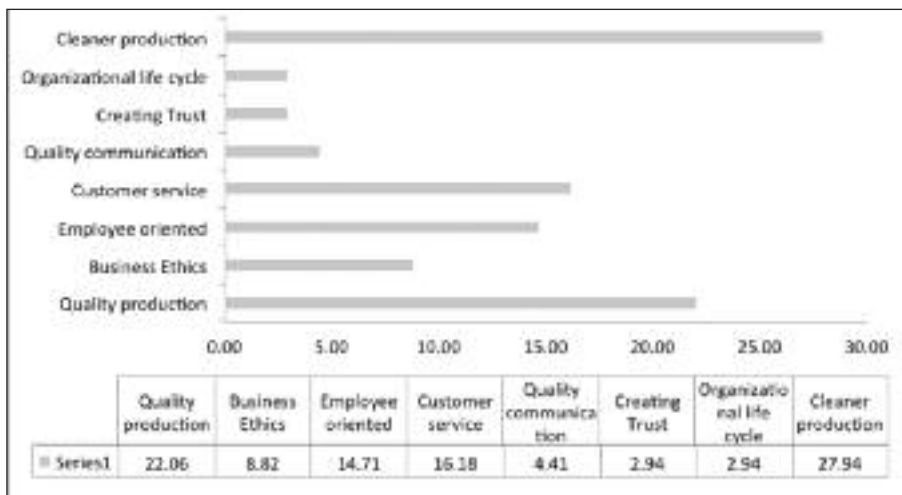


Figure 1. Strategic Policies of Brazilian Companies

Figure 1 describes the degree of integration of cleaner production strategic policies by the Brazilian companies communicated through their vision and mission statements. The results indicate that the majority of the Brazilian companies (27.94%) strongly emphasize on cleaner production strategies in their vision and mission statements. The results also indicate that the majority of the Brazilian companies have the least focus (2.94%) on creating organizational and customers’ trust relationship while designing their vision and mission.





Figure 2. Strategic Policies of Russian Companies

Figure 2 illustrates the current situation in the thematic issues extracted from vision and mission statements of the Russian listed top companies. The results indicate that the majority of the Russian companies primarily focus on the cleaner production perspective in their vision and mission statements (33.33%). The results also indicate that the least focused area by these companies is on customer service and customer trust (5.26%).

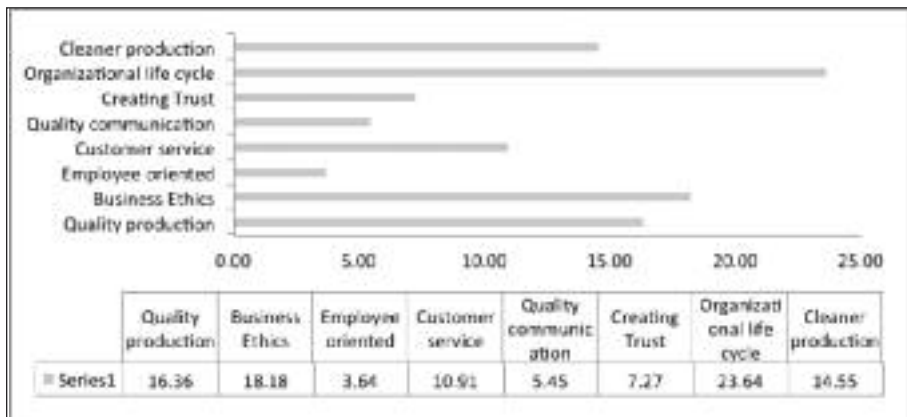


Figure 3. Strategic Policies of Indian Companies

Figure 3 helped the researchers to discern the main issues highlighted by Indian top listed companies in their vision and mission statements. The results show that the majority of the Indian companies especially focus the organizational life cycle while designing their vision and mission statements (23.64%). However, it has been observed that the least focused area in this regard is employee-oriented policies, which seems to be neglected and least concerned matter in the vision and mission statements of the Indian listed companies (3.64%).

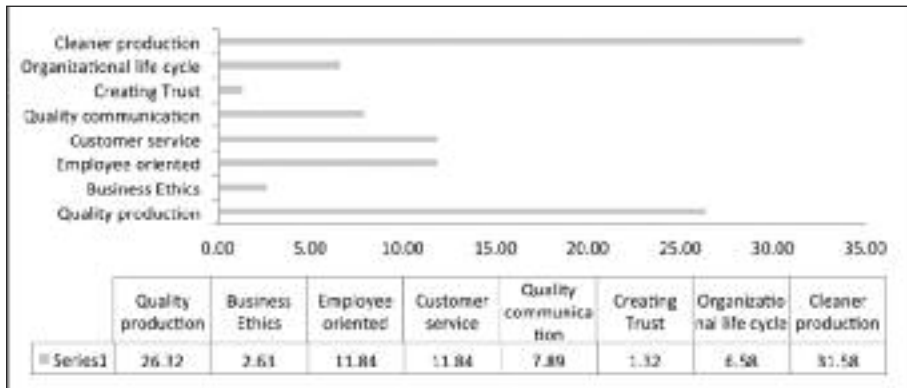


Figure 4. Strategic Policies of Chinese Companies

Figure 4 shows the results about the strategies of Chinese listed companies illustrated through their vision and mission statements. The results indicate that the Chinese listed companies’ major organizational interest is in cleaner production (31.58%). The results also indicate that creating trust between the organization and the customers is considered to be the least important issue (1.32%) for Chinese companies.

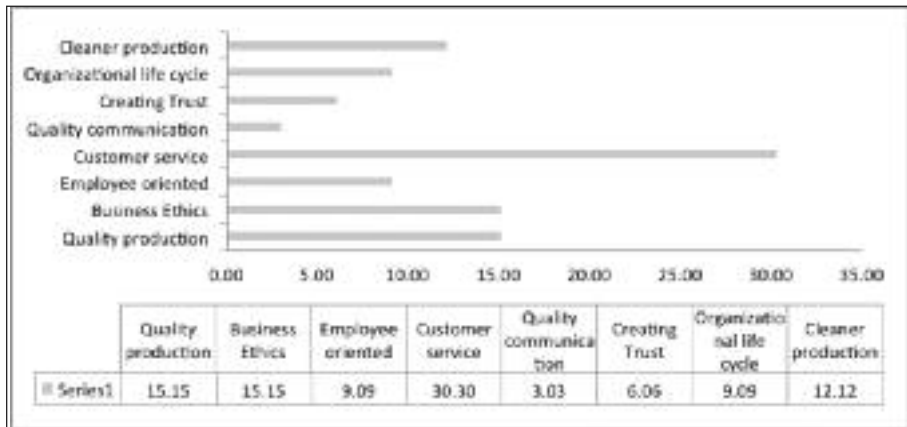


Figure 5. Strategic Policies of South African Companies

Figure 5 reveals that the South African listed companies mostly focus on customer service issues (30.30%) while formulating the vision and mission statements. The results also indicate that the issue which is given least attention in the vision and mission statements of South African companies is the quality communication between the organization and customers (3.03%). Whereas, the cleaner production practices are given moderate attention (12.12) and is mainly not focused by the organizations.

Table 1. Competition among BRICS companies for Cleaner Production

Country	Attention to cleaner production in vision and mission statements
Brazil	27.94 %
Russia	33.33 %
India	14.33 %
China	31.58 %
South Africa	12.12 %

Table 1 shows that the Russian companies rank on the top as about 33.33 % of the focus of these companies is on Cleaner production, China secures the second (31.58 %), Brazil third (27.94 %), India fourth (14.33 %) and South Africa secures fifth ranking (12.12 %), respectively, while focusing cleaner production issues in their vision and mission statements. These results also indicate that overall the cleaner production policies of BRICS countries are not satisfactory. The United Nations environmental department strongly suggest a high level of cleaner production policies to be adopted by the countries in order to promote sustainability and meet the millennium development goals.

### RECOMMENDATIONS AND CONCLUSION

This study concluded the most recent strategic statements of the BRICS countries and found that Russian companies strongly emphasize on cleaner production practices as compared to other BRICS countries. Although the other issues which were highlighted in the vision and mission statements of the companies are also important, but it has been found that in some of the BRICS countries the inclination towards the sustainability goals and cleaner production approach was missing. The Russian, Brazilian and Chinese companies were found to be more focused and determined in adopting the cleaner production approach while the Indian and South African multinational companies were found negligent towards the cleaner production approach in their vision and mission statements. Keeping in view the results of this study, it is recommended that the organizations in the BRICS as well as in the other countries of the world should focus more on cleaner production. The future studies may also be conducted by expanding the idea to other nations by focusing more on multinational and national companies.

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