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# Sustainability Reporting Practices in Emerging Economies: A Cross-Country Study of BRICS Nations

# Raportowanie praktyk zrównoważonego rozwoju w gospodarkach wschodzących: studium porównawcze krajów z grupy BRICS

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## Abstract

In the backdrop of a growing geo-political and economic importance of emerging economies, the objective of this paper is to ascertain whether firms in emerging economy are willing to match their increased economic weight with greater social responsibility. Given the relative scarcity of research in Sustainability Reporting (SR) practices in BRICS, particular attention is to be given to firms from these countries. The research question is examined through the analysis of differences between firms from BRICS nations in terms of various indicators of sustainability reporting practices. This study aims to evaluate corporate sustainability reporting according to the GRI framework developed by the Global Reporting Initiative. The firms in the sample display clear evidence of a divide among emerging economies in SR practices. India, score the highest across all dimensions i.e. economic, environmental and social followed by China while Russian companies have poor score across all categories. The leading industry complying with GRI reporting practices in case of India is Computer Hardware & Software industry with sustainability score of 94.02% and in Brazil, it is Pulp & Paper with 87.97% sustainability disclosure score. In Russia, it is Oil & Gas with 60.84% and in the case of China it is Automobiles & Transport with 71.06% disclosure score and retail industry in South Africa with 62.84% disclosurescore.

**Keywords:** sustainability reporting, GRI indicators, BRICS, emerging economies

## Streszczenie

W kontekście rosnącego geopolitycznego i ekonomicznego znaczenia gospodarek wschodzących, celem tego artykułu jest ustalenie, czy firmy funkcjonujące w ramach tych gospodarek są gotowe dostosować swoją zwiększoną wagę ekonomiczną do większej odpowiedzialności społecznej. Biorąc pod uwagę względną rzadkość badań prowadzonych w zakresie raportowania praktyk na rzecz zrównoważonego rozwoju w krajach BRICS (Brazylii, Rosji, Indii, Chinach i RPA), szczególną uwagę należy zwrócić na firmy pochodzące z tych właśnie krajów. W badaniach przeprowadzono analizę różnic odnoszących się do firm z grupy krajów BRICS w kontekście różnych wskaźników związanych z raportowaniem praktyk na rzecz zrównoważonego rozwoju. Celem była ocena praktyk raportowania odpowiedzialności korporacyjnej z wykorzystaniem platformy GRI opracowanej przez Global Reporting Initiative. Ocena wybranych firm ukazała zróżnicowanie, jakie występuje w poszczególnych krajach wschodzących gospodarek w zakresie realizowanych praktyk. Indie osiągają najwyższe wyniki we wszystkich wymiarach rozwoju zrównoważonego, tj. gospodarczym, środowiskowym i społecznym, za nimi plasują się Chiny, podczas gdy rosyjskie firmy osiągają słabsze wyniki we wszystkich kategoriach.
Wiodącą branżą zgodną z praktykami raportowania GRI w przypadku Indii jest przemysł sprzętu i oprogramowania (z poziomem zrównoważoności wynoszącym 94,02%), a w Brazylii przemysł papierniczy(z wynikiem wiarygodności 87,97%). W Rosji jest to przemysł petrochemiczny i gazowy (60,84%), podczas gdy w Chinach przemysł samochodowy i transportowy (71,06%), natomiast w RPA sprzedaż detaliczna (62,84%).

**Słowa kluczowe:** raportowanie praktyk zrównoważonego rozwoju, wskaźniki GRI, wschodzące gospodarki

## Introduction

The fragrance of *Mother Nature* has been deteriorated by the blind race of human civilization development. This fragrance was a balanced mix of the economic, social and environmental component, which has been disturbed by various issues like corruption, poverty, violence, pollution, global warming, deforestation etc. One of the reasons for such deterioration in balance mix is the uncontrolled phase of industrialization which has increased the number of corporate houses tremendously (Mulia et al., 2017). Undoubtedly businesses play as an axel in the socio-economic development of human civilization. In past, these businesses have brought immeasurable wealth and prosperity in the society. Globally these corporate houses are responsible for the consumption of more than one-third of primary energy and emissions of Green House Gases (GHG) (Bajpai & Sachs, 2011). However, unintentionally these industries are also responsible for the degradation of the environment. Hence, it is necessary to have a checklist of activities of these industries to stop further deterioration. For the protection of the environment, UN has also issued the guidelines with respect to technical and economic viability and how to significantly cut down the GHG emission by 2020. The whole world is debating for adopting a pathway towards a green economy for sustainable future. Sustainability issues have drawn the attention of policy makers, regulators as well as the academic researchers because of globally growing concerns in the area of sustainable development. Previously the main focus of corporate annual reporting was only restricted and concentrated on the economic and financial parameter only but currently, it has been extended to the environment and social reporting as well. The concept of CSR (Corporate Social Responsibility) may be treated as an integral part of the concept of sustainability and its reporting practices (Daizy & Das, 2014).

A sustainability report is an effective tool by which corporate houses disclose their integrated financial performance with the non-financial performance to its various stakeholders. SRrefers to the act of measuring, revealing the day to day operation and being accountable to its various stakeholders towards the objective of sustainable development (GRI, 2006). SR can be treated as a new trend in corporate reporting which incorporate all financial and non-financial information like the environment and social performance of the organization into a single report (Zwetsloot & Marrewizk, 2004; Quick, 2008). However various terms like TBL (triple bottom line) reporting, non-financial reporting, CSR, integrated reporting, BRR (business responsibility report) and more are used for sustainability reporting. It is published by an organization to report its economic, environmental and social impacts caused by its day to day operations. It demonstrates the linkage between strategy and commitment to an organization's values and governance model towards the global sustainable economy (GRI, 2012). There are many models for SR practices which are used worldwide. These models have been developed to measure social and ecological accountability. Some of these are Eco-Management and Audit Scheme (EMAS), International Organization for Standardization (ISO14000 series), Council on Economic Priorities Accreditation Agency which issues Social Accountability Standard (SA8000) later renamed as Social Accountability International (SAI), Institute of Social and Ethical Accountability Standard (AA1000), The Copenhagen Charter, Global Reporting Initiative (GRI).

But out of these GRI is the most acknowledged index for sustainability reporting worldwide (GRI, 2013). The GRI Guidelines are considered as de-facto standard for sustainability reporting, and it is important for GRI to remain neutral about the quality of individual reports (GRI, 2011). The GRI was founded as a joint project of the US Coalition for Environmentally Responsible Economies (CERES) and UN Environment Programme (UNEP) in 1997 (Waddock, 2007). It stated goal is to encourage dialog among the various corporate and its stakeholders by disclosing information on social, environmental, and governance performance (GRI, 2011). GRI has developed completely voluntary standards set of reporting norms onwhat and how to report. This report is focusing on a) general disclosure, b) economic disclosure, c) environment disclosure, and d) social disclosure. Again these areas have been divided into further sub-components, like general disclosure in seven categories, economic in four categories while social disclosure is again sub-classified into four categories and eachcategory is further divided into a total of forty-eight components. GRI also issues various sector supplements[1] for specific industries. Hence it is necessary to address the various issues and status of sustainability and its reporting practices on GRI parameter in these developing and under developed nations. For this study, five emerging nations commonly named as BRICS has been selected in the study.

The study primarily focuses on the evaluation of SR practices adopted by various corporate houses on the basis of various GRI guidelines in these five emerging economies of BRICS. The paper is organized as follows: Section 2 provides the overview of the literature. Section 3 deals with the data collection and research methodology. It is followed by analysis and

[1] For various GRI guidelines(e.g. 2000, 2002, 2006, 2009, 2011, 2016) sector supplements please refer: https://www.globalreporting.org/Pages/default.aspx (3.03.2017)

results in section 4 with the conclusion and discussion part in the last section.

## Review of Literature

Since the decade of 80's, continuum development can be noticed in SR practices (Kolk, 2011). The first voluntary report focused on only the environmental issues which was published as *Sustainable Report* in the late 1980's. The large MNCs, especially with environmentally sensitive operations which contribute a lot of pollutants to surroundings were forced in developing the SR module by various NGOs (INTOSAI-WGEA, 2013). For the firms, this was the clear indication that now SR is an important tool to communicate with various stakeholders and investors and maintaining the reputation in the market.

Agenda of sustainable development and its reporting practices have drawn the attention of various academic scholars since beginning phase. Various definitions related to SR paradigm come into light through the rigorous review of literature available on this area. Different definitions of sustainability may be distinct in many categories; in a study by Lozano (2008) classified these definitions as a) traditional approach which focuses on profitability; b) non- environmental deterioration approach having focus on environmental factor; c) integratedapproach focuses on all dimensions of TBL[2] (Elkington, 1999); d) intergenerational approachwhich focuses on time dimension (Stavins et al., 2003); and e) the holistic approach. Many authors have used the term SR referring to the TBL and long-run productivity of firms by maximizing its profitability (Bansal, 2002; Dyllick & Hockerts, 2002). It helps companies to understand market-oriented socio-economic and ecological challenges, which may block the path of its development (Schaltegger et al., 2013). Furthermore, an alternative paradigm of the *traditional* literature of sustainability comes in light based on the principle of symmetric generation treatment theory i.e. neither the future nor the present generations will be favored (Chichilnisky, 1996).

Simultaneously, various voluntary codes related to eco-auditing and environmental conduct have been developed. This development leads to creating the various standards of ISO14000 standard series. In mid 90's EU (European Union) launched its own system EAMS which defines CSR as *the responsibility of enterprises for their impacts on society* (European Commission, 2011). The development in SR practices has different forms; TBL reporting is one of them covering all three social, economic, and environmental dimensions or profit, people, and the planet (Elkington, 1999). Many global organizations have been established, who advocate the need for sustainability reports. GRI is one of them, working on the TBL approach of SR practices. The number of integrated sustainability reports increased while there is a decrease in the share of environmental reports since the turn of the millennium (INTOSAI-WGEA, 2013). So far, there are different forms of reports like stand-alone reports, integrated reports which are published bi-annually or annually; many firms are there which prefer to publish socio-environmental information in a separate form while some are publishing as an integrated annual reports (Eccles & Krzus, 2010). It is reflected in the initiatives of IIRC, which is dedicated to promoting the use of integrated reporting module.

The literature available on SR practices in developing economies can be classified into two major themes. On the first hand, researchers stated that SR is barely a new concept for most of developing economies. Although SR is often termed differently in different countries, it has more or less same concept of business responsibilities towards the general public (Blowfield & Frynas, 2005; Prieto et al., 2006). On the second hand, some researchers have observed that there is ample evidence of isomorphic pressures that force these developing economies towards the engagement with SR agenda (Garcia-Johnson, 2000). Initially, SR practices wererestricted to large OECD[3] organization (Kolk, 2011), but recently a significant uptake of SR practices can be seen in the firms of developing economies.

There is growing debate among scholars in India about the significance of SR in the economy. Indian business houses have made significant contributions to society through charity and religious activities. India draws on profound and established indigenous social custom of altruism, business morals, and group embeddedness (Arevalo & Aravind, 2011; Amaldoss & Manohar, 2013). Like India, an increased commitment of firms towards social goods and services for their religious, cultural and social development can be also seen in Brazil (Raufflet, 2008) and South Africa (Mitchell & Hill, 2009). The Chinese government has played a central role in its agenda for the social responsibility to its state-owned and privatefirms (Fiaschi et al., 2015), while Rus-

[2]The term TBL was very first coined by a British researcher John Elkington in 1994. He argued that firms require preparing three different bottom lines. One is for their profit and loss account (economic), secondly is for people account (social) which shows how socially responsible these firms have been through its daily operational activities, and the third bottom line is planet account (environmental) which measures their environmental performances: *The Economist*, http://www.economist.com/node/14301663 (4.04.2017).

[3]OECD is the Organisation for Economic Co-operation and Development; it involves promoting policies which will improve the economic & social welfare of the people all around world.

sian firms are generally aligned with the latest trends in SR with a lot of space for improvement (Preuss & Barkemeyer, 2011).

The issues of sustainability and its reporting practices have been studied by various researchers since last decade. Still, only a handful amount of the scholarly literature on sustainability reporting practices exists which is mainly focused on developed economies (Roberts & Koeplin, 2007). If quality and the standardized information are present in sustainability reports, then it plays a crucial role for the various stakeholders in evaluating the strategies of companies and its future roadmaps to achieve the relevant aims and objectives (Fiaschi et al., 2015). A range of scholarly literature explored the factors affecting the voluntary non-financial reporting. Meaning and concept of corporate business responsibilities for the environment and society vary significantly from country to country, depending upon the nation's business system (Ioannou & Serafeim, 2012). Although the BRICS countries face similar kind of environment in economic growth, yet their business system completely differs, which is self-explaining that business responsibility has been conceived over time in their law of the land (Baskin, 2006). Most of existing literature on BRICS nation either take the chronological and comprehensive perspective on corporate sustainability reporting (Griesse, 2007) or focus on the single time frame (Chaudri & Wang, 2007). Very few pieces of literature compare adaptation of different sustainability reporting initiative and discuss their potential outcome (Chapple & Moon, 2005; Baskin, 2006). On the other hand there is presence of some scholarly literature which tried to explain appropriateness of the existing theories with various aspects of moral and ethical values like social theory (Bebbington et al., 1999), media agenda setting theory (Brown & Deegan, 1998), stakeholder (Neu et al., 1998), communitarian (Lehman, 1999), and legitimacy (Deegan, 2002).

This paper tries to build on the existing literature by exploring empirically the SR practices on basis of GRI guidelines by the various companies of BRICS nations. It tries to explorewhether the SR practices of companies in these nations are significantly different from one another.

## Data Source and Research Methodology

As the objective is to evaluate the sustainability reporting practices in BRICS nations during the period of 2008-2009 to 2016-2017, this study incorporates the companies from the respective board indices of these countries. The reason behind consideration of the above-mentioned period is that from 2008-2009 onwards a great thrust on sustainability reporting practices can be seen worldwide (GRI, 2009). To obtain the sample from the various indices following filter was applied: 1) the company who registered their report either in form of sustainability reports or annual report to GRI for the above time-frame i.e. 2008-2009 to 2016-2017. Those who are not registered are not taken into account; 2) companies with their reports in their native language (not in English) only has also been not been taken into account.

As a result of above-mentioned filter the sample size reduced to 39 companies from BOVESPA index (Brazil); 22 companies from RTS index (Russia); 18 companies from SENSEX (India); 20 companies from SSE 50 Index (China); 26 companies from JSE index (South Africa). These companies represent different sectors of economy viz. metal and mining, energy and power, finance, retail, and others. The sustainability reports are prepared by these companies on the basis of GRI guidelines and registered in GRI website. Time to time, GRI issues various version of its reporting index like G2 guidelines in 2002, G3 guidelines in 2006, the G3.1 guideline in 2009, the G4 guideline in 2011. The latest version of GRI guideline issued in 2016 is termed as *GRI Standards*. This latest version of GRI guidelines will be come into force from 2018 onwards. For the current study GRI's G3, G3.1, G4 framework has been taken care into account. All quantitative and qualitative information extracted from reports under these three major categories economic, environment and socialby using content analysis method. Content analysis is that category of research method which evolves as the intersection point of the quantitative and qualitative research tradition. It promises to explore such important issues which seem to be very difficult to study for the research scholars in the area of policy and strategy, organizational behavior, socioeconomic and ecological issues, various organizational theories, human resources (Duriau et al., 2007). Content analysis as a research method has been used in studies from both developing and developed nations (Ahmad et al., 2003; Murthy, 2008). To sum up, this study resorts to the content analysis of the annual and sustainability reports of each of the companies from the BRICS nations. To draw the inferences about sustainability score, economic, environmental, and social dimension have been taken into consideration. A scoring system was developed to analyze each and every report. Morhardt et al. (2002) proposed a numerical based scoring method by converting ISO 14031 framework and GRI 2000 reporting module in a scoring system of 0–3. As the study is analyzing different GRI guidelines during the various timespans, this four point scale is converted into three point scale to remove the complexity. For example, GRI G3 contains 79 key indicators, these 79 indicators are depicting performance indicators as outlined by disclosure index and are rationed a maximum score of 2 in each category making the total possible score of 158 (79*2). Coding is undertaken manually and focused on the content of different information, which is present in annual reports or sustainability reports of the companies as per GRI guidelines. The scoring system is 2 if the indicator is fully reported;

1if the indicator is partially reported and 0 if the indicator is not reported. These different types of disclosures e.g. full disclosure, partial disclosure and no disclosure are based on information contained in the annual and sustainability reports of the companies as per GRI database. Cases, where firms stated that a particular indicator was not material for them, are taken as 0 while not applicable is considered NA and is excluded for this reason on the basis of content analysis of the report. A similar process is used to obtain the score for GRI 3.1 and GRI G4 which contains 84 and 91 indicators respectively.

Each report is evaluated on the basis of above-mentioned guidelines and given score accordingly. For the analysis, mean average score of all years has been considered. Mean score value is considered to make uniformity in various version of guidelines. Further measurement at a disaggregate level for the period is calculated by the sum of all score obtained divided by the sum of the maximum applicable score to that company for the period of study in each category (economic, environmental, social). This can be expressed as:

$$\text{Mean Average Score} = \frac{\text{Sum of all points scored across various categories by a company}}{\text{Sum of maximum applicable score for that company}}$$

Further, one-way ANOVA is used to highlight the differences in sustainability score of various companies in the five countries. The following hypothesis has been framed in the study: 1) H01: There is no significant difference in the sustainability disclosure scores of Brazilian companies, 2) H02: There is no significant difference in the sustainability disclosure scores of Russian companies, 3) H03: There is no significant difference in the sustainability disclosure scores of Indian companies, 4) H04: There is no significant difference in the sustainability disclosure scores of Chinese companies, and 5) H05: There is no significant difference in the sustainability disclosure scores of South African companies.

## Analysis and Results

As shown in table 1, the overall average coverage level of various GRI indicators in BRICS nations is only 59.67%. The top three sub-indicators are EC1 (Direct economic value generated and distributed), LA7 (Workers with high incidence or high risk of diseases related to their occupation) and LA1 (New employee hires and employee turnover) with 88.73%, 86.67% and 84.69% respectively. The highest level of coverage across all various indicators is shown by Indian companies with 72.72% followed by Chinese companies with 63.65%. Brazilian companies were found in middle rank with an average of 58.05% for all indicators addressed, followed by South African companies with 55.62% and the Russian companies getthe lowest score of 48.31%. While in each sub categories i.e. for economic indicators, Indian firms scored highest with 78.06%, followed by Chinese, South African, Brazilian and Russian firms with the average score of 74.60%, 67.70%, 66.30%, and 61.70% respectively. Again, for environmental indicators Indian firms scored highest with 74.20%, followed by Chinese, South African, Brazilian and Russian firms with the average score of 64.40%, 58.90%, 57.80%, and 50.40%. Three pillars of sustainable development are commonly distinguished: environmental, economic, and social (Pawłowski, 2008). An extensive body of theoretical, methodological and research literature exists on the first two pillars, while the social dimension has been neglected in all these aspects.

For labor practices Indian firms scored highest with 81.68%, followed by Chinese, Brazilian, South African, and Russian firms with the average score of 76.12%, 71.60%, 72.62%, and 66.60% respectively; for human rights Indian firms scored highest with 70.60%, followed by Brazilian, South African, Chinese, and Russian firms with the average score of 56.10%, 50.70%, 46.90%, and 42.13% respectively. Again, for societal indicators Indian firms scored highest with 73.10%, followed by Chinese, Brazilian, South African, and Russian firms with the average score of 66.80%, 54.30%, 54.20%, and 34.61% respectively. In product responsibility category, Indian firms scored highest with 58.67%, followed by Chinese, Brazilian, Russian and South African firms with the average score of 53.10%, 41.20%, 34.40%, and 30.60% respectively.

As shown in above table 1, while a number of common similarities like the relative popularity to report economic indicators and general unwillingness to report on product responsibilityrelated indicators had been found across the sample firms in all BRICS nations. Among firms from these emerging economies, the highest degree of coverage can consistently be found in the area for labor practices and decent work, followed by the economic dimension. With one minor exception noticed in case of Russian firms (reporting on human rights, product responsibilities, and societal indicators), category-level ranks are identical across all BRICS countries. The societal dimension found as the least frequently addressed category among Russian companies followed by South African companies.

Out of the three categories Economic, Environmental and Social, the Economic category is the most reported category in all the countries while the environmental category is the least reported. The leading industry following the SR practices as per GRI guidelines in case of India is Computer Hardware & Software with 94.02% and in Brazil, it is Pulp & Paper with 87.97% sustainability disclosure score. In the case of China it is Automobiles & Transport sector with 71.06% and in Russia, it is Oil & Gas industry with 60.84% and retail industry in South Africa with 62.84% disclosure score.

Table 1. Categories-wise average percentage score of GRI indicators across BRICS nations over a period of 2008-09 to 2016-17. Source: Author's calculated value.

| Countries | Economic | Environmental | Labor practices | Human rights | Society | Product responsibility | Overall |
|---|---|---|---|---|---|---|---|
| Brazil | 66.30 | 57.80 | 72.62 | 56.10 | 54.30 | 41.20 | 58.05 |
| Russia | 61.70 | 50.40 | 66.60 | 42.13 | 34.61 | 34.40 | 48.31 |
| India | 78.06 | 74.20 | 81.68 | 70.60 | 73.10 | 58.67 | 72.72 |
| China | 74.60 | 64.40 | 76.12 | 46.90 | 66.80 | 53.10 | 63.65 |
| South Africa | 67.70 | 58.90 | 71.60 | 50.70 | 54.20 | 30.60 | 55.62 |
| BRICS | 69.67 | 61.14 | 73.72 | 53.29 | 56.60 | 43.59 | 59.67 |

Table 2 Summary of ANOVA results in BRICS nations.Source: Author's calculated value.

| Country | No of firms | F- test value | F- Critical value | Results |
|---|---|---|---|---|
| Brazil | 39 | 0.955045 | 2.664107 | Accepted |
| Russia | 22 | 0.128733 | 2.713227 | Accepted |
| India | 18 | 0.957041 | 2.739502 | Accepted |
| China | 20 | 2.894566 | 2.724944 | Rejected |
| South Africa | 26 | 0.121092 | 2.695534 | Accepted |

The result of one-way ANOVA in table 2, shows that there is no significant difference in SR score in BRICS nation except China i.e. all null hypothesises are accepted in BRICS nations except the Chinese companies.

**Discussion and Conclusion**

Sugget and Goodsir (2002) have identified three important characteristics of sustainability i.e.a) accountability towards various internal and external stakeholders, b) an integrated planning and management to achieve the economic prosperity, social well -being with improved environmental quality, and c) a multi-dimensional performance evaluation and reporting system based on verification of three pillars of TBL approach i.e. economic, environmental, and social performance. Most of the sustainable development initiatives have been developed by isolating the business activities and not have any direct linkage with its strategy (Yadava et al., 2016). Within an organization, internal environmental programs show a positive impact on all three pillars of TBL while external social development initiatives have a positive impact on only two i.e. environmental and social performances (Gimenez et al., 2012).

Analysis of companies in the five emerging economies showed that SR practices on economic parameter were more compressive rather than environmental and social aspects. All key performances indicators of economic aspect scored well, whereas the score of performance parameter on rest two dimensions was not up-to mark. Thus it is inferred that these companies were inefficient in social and environmental dimension or lacking the skill of integrated reporting on these two, which was earlier observed in Indian context (Sahay, 2004) and different parts of the world (Adams et al., 1998; Ratanjongkol et al., 2006).

Typically, it was observed that companies found more efficient in reporting such parameter of environmental aspect which has direct implication on reducing the variable cost like energy, water, material etc. while poor in reporting parameters like effluent, biodiversity, environmental compliance, and other aspects. With the increase in awareness towards the social and environmental issues, now investors and other stakeholders are demanding the status report on the contribution towards the improvement of environmental and social welfare aspects, in addition to healthy financial reporting. SR practices come with indefinitepotential. It has many roles to play i.e. to alleviate poverty, to build an ultramodern city with social welfare, and to preserve natural resources. These vast scopes of SR practices may be another reason for obtaining the low score on environmental and social dimensions of companies in BRICS nations. Hence, it is very difficult to report such a vast scope of SR in a single given format. Therefore, SR practices followed by each company of BRICS nations, even in similar reporting guidelines it is not comparable (Chapple & Moon, 2005). Generally, it is expected that a company will make utmost effort to obtain the highest probable score on all dimension of TBL. Such dissimilarities were also observed in SR practices of firms in Sweden (Hedberg & Malmborg, 2003), New Zealand (Chapman & Milne, 2003), and India (Yadava et al., 2016). Thus, an improvement required in the SR practices on its all dimension. This improvement is a continuous process and would require a lot of time in empowering needful skill related to every aspect of sustainable development and SR practices. This score based system may be utilized by different industries

in different countries as a yardstick in evaluating their performance on sustainable development. The current analysis based on average scoring may act as a yardstick for different firms in a same industries in evaluating their reporting module and able to effectively communicate this to different stakeholders. Henceforth, by assisting in identifying its potential strengths and weakness on the SR practices, may be able to compare their reported performance against their peers.

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## Appendix

Appendix1.Result of One Way ANOVA for Category-Wise Comparison for companies of BRICS Source: Author's calculated value.

| Countries (No. of companies) | SUMMARY | | | | | |
|---|---|---|---|---|---|---|
| | Source of Variation | SS | df | MS | F | F crit |
| Brazil (39) | Between Groups | 1685.522 | 3 | 561.8405 | 0.955045 | 2.664107 |
| | Within Groups | 89419.63 | 152 | 588.287 | | |
| | Total | 91105.15 | 155 | | | |

| Countries (No. of companies) | Source of Variation | SS | df | MS | F | F crit |
|---|---|---|---|---|---|---|
| Russia (22) | Between Groups | 305.5699 | 3 | 101.8566 | 0.128733 | 2.713227 |
| | Within Groups | 66462.85 | 84 | 791.2244 | | |
| | Total | 66768.42 | 87 | | | |
| India (18) | Between Groups | 763.35 | 3 | 254.45 | 0.957041 | 2.739502 |
| | Within Groups | 18079.27 | 68 | 265.8716 | | |
| | Total | 18842.62 | 71 | | | |
| China (20) | Between Groups | 5755.09 | 3 | 1918.363 | 2.894566 | 2.724944 |
| | Within Groups | 50368.72 | 76 | 662.7463 | | |
| | Total | 56123.81 | 79 | | | |
| South Africa (26) | Between Groups | 207.6497 | 3 | 69.21656 | 0.121092 | 2.695534 |
| | Within Groups | 57160.38 | 100 | 571.6038 | | |
| | Total | 57368.03 | 13 | | | |