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Corporate Social Responsibility and Sustainable Development: A Review of the Indian Electronic Waste Management Practices

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Abstract

Numerous studies on corporate social responsibility (CSR) have primarily concentrated on developed nations, with limited attention given to CSR activities in developing countries. Nevertheless, the increasing debate on sustainable development in developing nations, particularly in India, has triggered substantial discussions regarding the relationship between CSR and sustainable electronic waste management. CSR embodies a dynamic paradigm advocating sustainable development regardless of the motivations and approaches of business organizations. The CSR initiatives undertaken by firms should foster elevated levels of ethical sustainability. Within the Indian electronic industry, manufacturers and producers have traditionally emphasized economic growth and profit maximization, often neglecting product life cycle management. This negligence has contributed to the indiscriminate disposal of electronic waste in landfills, resulting in environmental deterioration. However, it is imperative to examine how the principles of CSR and sustainable development can mitigate the generation of electronic waste. The present paper attempts to elucidate the relationship between corporate social responsibility and sustainable development to facilitate enhanced electronic waste management. Its significance lies in addressing the imperatives of corporate social responsibility, sustainable development, and environmental welfare.

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Keywords

Corporate social Responsibility; India; Electronic Waste; Sustainable Development; Waste Management, Electronic Industry.

Introduction

Electronic waste management poses a critical environmental challenge in many developing nations like India, necessitating urgent attention amid population growth. India, grappling with its own environmental issues, particularly in the domain of electronic waste, faces significant hurdles due to increasing population and low awareness regarding electronic waste pollution. Rapid urbanization and the rise of the middle class, characteristic of emerging major cities like Mumbai and Bangalore, exacerbate India's electronic waste dilemma.

Estimates by environmental agencies suggest a staggering annual generation of electronic waste globally, projected to escalate from 52.2 million tonnes to 74.7 million tonnes by 2030 (Adrian et al., n.d.). This underscores the pervasive nature of electronic gadgets and appliances in contemporary lifestyles, contributing to India's mounting electronic waste crisis, as depicted in Fig. 1.

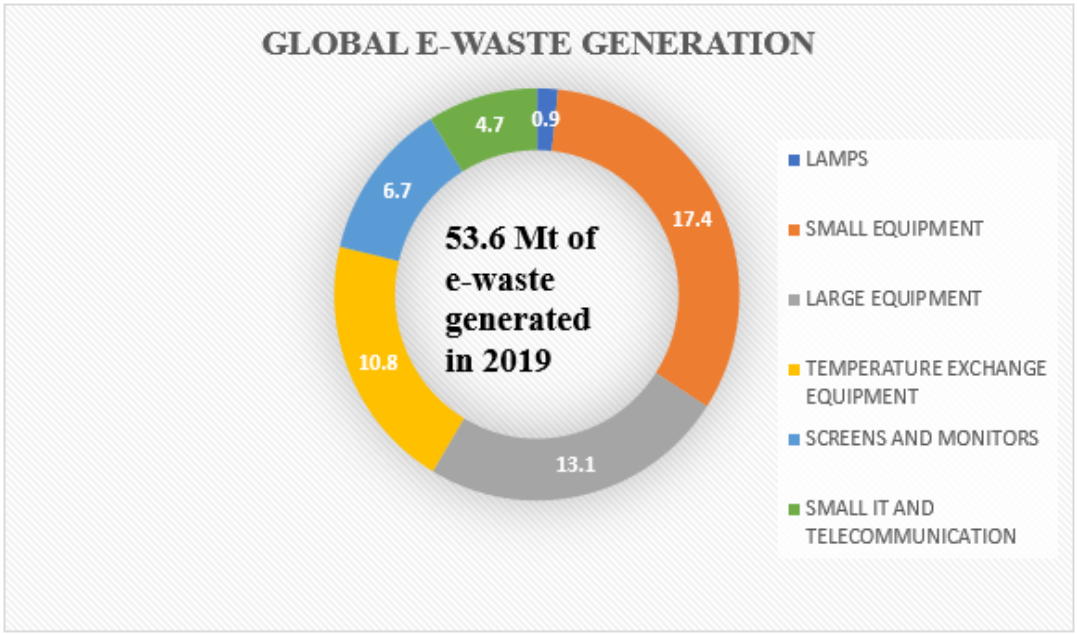

Figure 1: Global E-waste Generation (Category wise)

Source: Global E-waste Monitor Report 2020

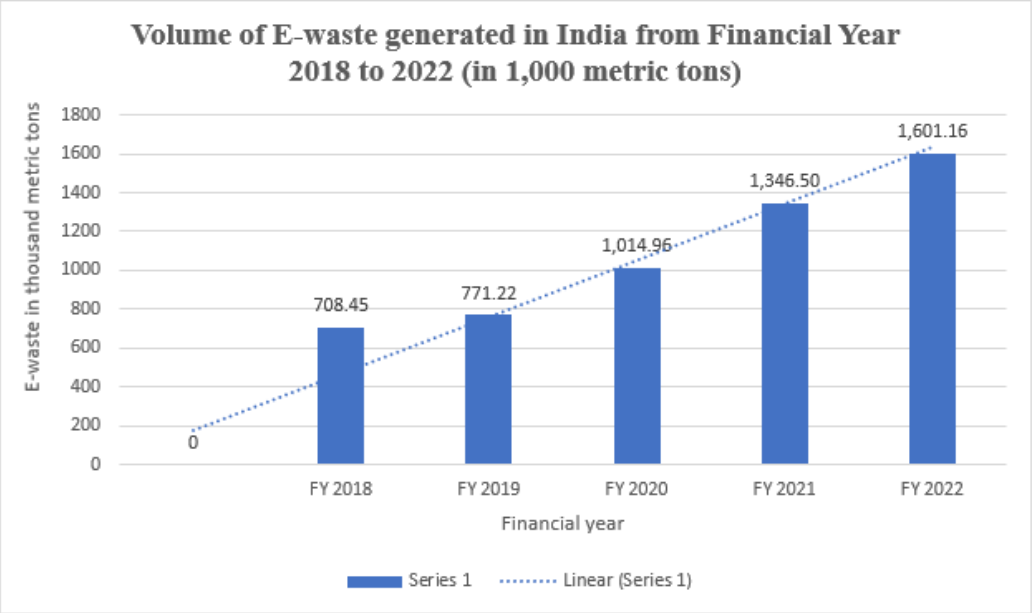

Figure 2: E-waste Generation in India

Source: India: volume of e-waste generated 2022 | Statista

The proliferation of electronic devices, including smartphones, computers, and household appliances, accentuates the electronic waste predicament, with consumers discarding obsolete or malfunctioning gadgets indiscriminately. The disposal of electronic gadgets, often loaded with toxic components, poses grave environmental and health risks, especially when disposed of improperly in landfills or incinerated .

Governmental bodies like the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Central Pollution Control Board (CPCB) have initiated measures to address electronic waste challenges through regulations and awareness campaigns (Dhillon & Sandhu, 2020). However, the efficacy of these endeavours remains questionable, with electronic waste comprising a substantial portion of India's total electronic waste volume, projected to surge exponentially over time (see Fig. 2).

Moreover, the expansion of electronic manufacturing, propelled by initiatives such as the "Make in India" campaign, portends a surge in electronic waste production as consumer electronics become more accessible and affordable (Bibeman, 2022). While these attempts signify positive economic strides for India, the concomitant surge in electronic waste generation poses a formidable environmental challenge, necessitating immediate action.

To mitigate India's burgeoning electronic waste crisis, it is imperative to study the opportunities wherein the principles of corporate social responsibility (CSR) and sustainable development can be harnessed effectively (Voyko & Voyko, 2022). This review paper seeks

to elucidate how concepts like CSR and sustainable development can inform and encourage electronic waste management practices, thereby fostering environmental sustainability and societal well-being. By examining the relationship between CSR, sustainable development, and electronic waste management, this paper aims to provide insights for policymakers, industry stakeholders, and environmental advocates alike.

Corporate Social Responsibility

The concept of corporate social responsibility (CSR) encompasses various dimensions such as corporate citizenship, social performance, and corporate sustainability, which are delineated by scholars . Since the early 1950s, there has been ongoing debate among scholars regarding the nature of CSR, with some advocating for altruistic contributions to society without expectation, while others present contrasting views (Kotler & Lee, 2005). This perspective is echoed by Kotler& Lee (2005), who contends that CSR should entail enhancing community welfare through initiatives like environmental sustainability and judicious utilization of corporate resources. Additionally, Matten & Moon, (2007)asserts that companies adopt CSR strategies to safeguard their reputation, rationalize costs and benefits, integrate stakeholders into their strategies, and manage risks effectively.

Moreover, Kurucz et al., (2009)observes that numerous companies engage in CSR activities aimed at promoting sustainability, environmental well-being, and social welfare, thereby fostering synergistic value creation. In developed countries from the mid-1950s to the 1980s, CSR roles expanded to encompass health, social welfare, and environmental sustainability (Kurucz et al., 2009). Consequently, social movements advocating civil, women's, and consumer rights, along with environmental activism, exerted pressure on companies to adopt environmentally sustainable practices. Subsequently, many companies in developed nations established targets to achieve environmental sustainability, culminating in widespread agreement among industrialized countries to adopt environmentally sustainable practices.

Similarly, Carroll, (1991) suggest that CSR should compel companies to transcend profit motives and pursue environmentally sustainable paths. Carroll's model divides CSR into four components: economic, legal, ethical, and philanthropic or discretionary responsibilities (Carroll & Shabana, 2010), arguing that companies must incorporate environmental sustainability into their obligations while fulfilling duties within these realms. Scholars have widely adopted Carroll's model to define CSR and its obligation (Carroll & Shabana, 2010), asserting that the majority of leading business organizations have embraced the four CSR

components outlined in Carroll's model. This perspective underscores the notion that CSR extends beyond profit, benefiting society, businesses, and the environment (Taneja et al., 2011).

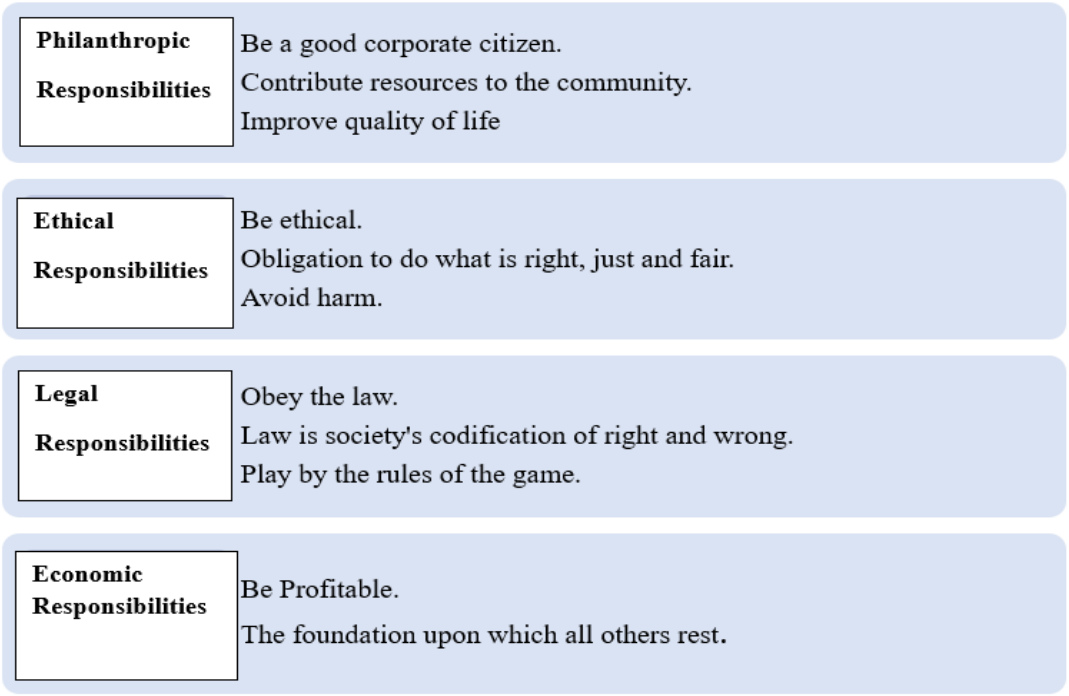

Figure 3: Caroll's Pyramid of CSR

Carroll's definition of CSR, particularly in terms of environmental sustainability performance, remains pertinent for evaluating a company's environmental stewardship(Carroll, 1979). Although the classification of CSR activities remains controversial, Carroll's model emphasizes the significance of CSR components (Carroll, 1991) . Carroll's pyramidal definition of CRS is widely accepted and utilized (Geva, 2008); (Taneja et al., 2011). In this review, we examine how the four components of Carroll's CSR model can aid in mitigating electronic waste and promoting sustainability, environmental well-being, and societal welfare.

Economic Responsibilities

Many companies prioritize maximization profit aiming to ensure the financial stability of the organization and a return on invested capital, constituting an economic responsibility (Matten & Moon, 2007), (Vargas-Merino & Rios-Lama, 2023). Carroll highlights the significance of economic responsibility, emphasizing profit maximization, competitive value, and operational efficiency (Carroll, 1991). It is argued that companies should not only pursue profit but also engage in scientific research to understand ecosystem balance, countering

concerns that profit-driven motives can exacerbate environmental issues (Sheehy & Farneti, 2021).

In India, electronic waste management presents similar challenges to those observed in other developing nations, where uncontrolled electronic waste has led to substantial environmental degradation. The surge in electronic production, coupled with inadequate electronic waste management, has significantly increased electronic waste pollution in India. This underscores the urgency for manufacturers and producers to undertake the long-term production of environmentally friendly electronics and assume responsibility for the environmental impact of electronic waste.

Legal Responsibilities

Legal responsibilities necessitate adherence to fair business practices as outlined in the state legal system (Carroll & Shabana, 2010). All businesses are obliged to operate within established regulations and laws. Compliance with government regulations, particularly in the production of environmentally friendly electronics, exemplifies legal responsibility (Carroll, 1991). Successful companies ensure compliance with legal obligations, including environmental regulations, and provide consumers with sustainable electronic products(Carroll & Shabana, 2010). Numerous scholars assert that regulations and legislation are essential for organizations to fulfil their CSR obligations (De Schutter, 2008); (Phillips et al., 2003). In developed countries, such as Germany and Canada, electronics manufacturers have met their legal obligations by adapting to existing environmental laws and regulations governing electronic waste management. Conversely, Indian electronics manufacturers have struggled to comply with environmental laws and regulations related to electronic waste management, resulting in increased electronic waste pollution and inadequate disposal (Osibanjo & Nnorom, 2007). Strengthening legal responsibilities through stringent enforcement and monitoring mechanisms is crucial for mitigating electronic waste pollution in India.

Ethical Responsibilities

Ethical responsibility encompasses the moral values that define societal norms of corporate conduct(Carroll & Shabana, 2010), including fairness and justice aligned with societal expectations. While some electronics manufacturers uphold higher ethical standards, they often fail to implement sustainable practices, leading to environmental pollution. In India, improper disposal of electronic waste exacerbates electronic waste pollution and littering

(Wath et al., 2010). To address ethical responsibilities effectively, participatory environmental stewardship involving all stakeholders is imperative.

Philanthropic Responsibilities

Philanthropic responsibility involves voluntary actions aimed at promoting human well-being and environmental quality. Many companies engage in philanthropic activities, such as volunteering and supporting innovative programs, to improve social welfare and environmental conditions (Nath et al., 2019). While not mandatory, philanthropic responsibility is preferred in business decisions. Electronics manufacturers in India should participate in philanthropic activities to demonstrate social commitment and contribute to community-driven initiatives for electronic waste management across the country (Sthiannopkao & Wong, 2013).

Aligning Corporate Social Responsibility (CSR) and Sustainable Development to Effective Electronic Waste Management in India

CSR represents a dynamic concept aimed at fostering sustainable development, irrespective of the motivations and strategies adopted by companies. The implementation of CSR components by the business organizations should contribute to achieving high sustainability standards, as measured against the three pillars of sustainability namely economic viability, environmental protection, and social justice (Vargas-Merino & Rios-Lama, 2023).

The notion of sustainability gained prominence in the last century due to widespread academic efforts aimed at addressing the escalating environmental crisis. Key milestones include the first United Nations Conference on the Human Environment (Stockholm Conference) in 1972 and the United Nations Sustainable Development Summit in New York in 2015, which catalyzed extensive deliberations. The 1987 United Nations Declaration defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (UN, 1987). Sustainable development entails socio-economic progress harmonized with environmental limitations and equitable resource distribution to safeguard the well-being of future generations.

Hence, the concept of CSR is inherently intertwined with that of sustainability, as sustainability revolves around maintaining equilibrium across the environment, society, and economy. The pillars of sustainability collaborate synergistically to attain sustainability

objectives. Similarly, the components of CSR complement each other to fulfil obligations and uphold sustainable practices in business operations (Voyko & Voyko, 2022).

In contemporary discourse, the term "sustainability" is more prevalent than "CSR"(Grant, 2012). Therefore, it becomes imperative to delineate the correlation between CSR and sustainability to enrich the perspective of electronic waste manufacturers and producers in India, as illustrated in Fig. 4 and discussed below.

Figure 4. Aligning CSR and Sustainable Development

Source: Author's own elaboration

Economic Sustainability/Economic/Legal/Ethical Responsibilities

In accordance with Basiago, (1451), "economic sustainability" denotes a production system that meets present consumption levels while safeguarding future needs. As highlighted in (Grant, 2012), companies perceive their economic responsibility as maintaining financial stability and ensuring returns on invested capital. Carroll underscores corporate duties such as profit maximization, competitive market value, and operational efficiency. It is posited that economic expansion devoid of economic sustainability considerations could precipitate severe environmental crises like electronic waste, pollution, ozone layer depletion, and deforestation. Several developing nations, including India, are grappling with environmental emergencies due to unsustainable economic growth. Without integrating the principle of economic sustainability into corporate agendas, these challenges are likely to persist. Embracing circular economy principles, such as product design for longevity and recyclability, fosters resource efficiency and creates value from e-waste materials,

contributing to economic sustainability (Wath et al., 2010). Adhering to e-waste management regulations, such as the E-Waste (Management) Rules, 2016, ensures legal compliance and fosters a culture of responsible corporate citizenship. Engaging suppliers and partners in sustainable e-waste management practices enhances supply chain resilience and reduces business risks associated with non-compliance or reputational damage. To instil sustainability principles in production, manufacturers' and producers' ethical responsibilities should establish high environmental sustainability standards (Wath et al., 2010).

Environmental Sustainability/Legal/Ethical Responsibilities

Environmental sustainability encompasses ecosystem integrity, carrying capacity, and biodiversity (Basiago, 1451). As suggested in (Grant, 2012), companies must conduct environmentally conscious operations to prevent natural resource depletion or overexploitation. This entails ensuring sustainable resource exploration and utilization without environmental harm. Moreover, manufacturers and producers must assume responsibility for environmental stewardship. Hence, economic sustainability and responsibility in India should extend beyond mere profit maximization to incorporate sustainable environmental practices. Regulatory bodies should enact and rigorously enforce laws governing environmental sustainability. Conversely, consumers' ethical responsibilities should integrate moral values into their consumption and disposal behaviours to achieve ecological sustainability. The lack of environmental sustainability has perpetuated electronic waste-related environmental issues in India, stemming from insufficient ethical responsibility, failure to meet legal obligations, and inadequate waste management policies (Osibanjo & Nnorom, 2007). Eco-design principles and green procurement practices should be implemented to reduce the environmental footprint of products throughout their lifecycle, from manufacturing to end-of-life disposal. Companies should in e-waste recycling technologies and infrastructure promotes resource conservation and reduces the extraction of raw materials, thereby mitigating environmental degradation (Sthiannopkao & Wong, 2013). Enhanced environmental education and awareness, coupled with robust waste management policies, are imperative to safeguard the country’s environment from electronic waste problem.

Social Sustainability/Philanthropic/Ethical Responsibilities

"Social sustainability," per Basiago, (1451), denotes a social organization system aimed at alleviating poverty to enhance people's lives. Companies, as emphasized in Grant, (2012),

must uphold good citizenship to enhance societal well-being. Additionally, Moon, (2007)underscores social sustainability's focus on improving human life through empowerment initiatives, educational advancements, and poverty alleviation. The author posits philanthropic responsibility as integral to social sustainability. Supporting philanthropic initiatives, such as awareness campaigns, education programs, and healthcare services, addresses social inequalities and promotes human development in e-waste-affected regions (Wath et al., 2010). Philanthropic activities and social sustainability can contribute to achieving Sustainable Development Goals (SDGs), including poverty and hunger eradication. Social sustainability encompasses a 'commitment' element akin to the ethical responsibility expected from society. Implementing health and safety measures for workers involved in e-waste recycling protects their well-being and upholds ethical labour practices. While philanthropic responsibility is a discretionary decision-making factor, it aligns with social sustainability's objectives. Combining social sustainability with robust environmental solutions, manufacturers and producers in the electronics industry can combat electronic waste effectively.

Conclusion

The present review paper explores how the CSR concept can promote sustainability, environmental well-being, and social welfare. The authors delineate the four CSR components vis-à-vis sustainable development and their potential to mitigate electronic waste risks. Implementing the CRS concept necessitates participatory environmental responsibility involving all stakeholders, underscoring the importance of sustainability from a moral standpoint. Success is contingent upon aligning with the three pillars of sustainability and their objectives. However, CRS can only contribute partially to addressing electronic waste in India if complemented by effective institutions and infrastructure, public environmental education, stringent environmental legislation, and enforcement mechanisms.

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