

Innovative Pathways to Sustainability

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ABSTRACT

India's unorganised Small and Medium Enterprises (SMEs) sector, despite lacking comprehensive government support, presents significant potential for integrating Circular Economy (CE) practices. CE aims to promote sustainability by reducing waste and dependence on non-renewable resources, aligning with Sustainable Development Goals (SDGs). However, quantifying the link between CE and SDGs remains complex due to differing objectives and limited research. This paper explores the challenges and opportunities for transitioning India's SMEs toward Circular Economy Business Models (CEBMs). Key barriers include insufficient funding, high investment costs, and limited market penetration, alongside rigid supply chains and inadequate consumer engagement. The study argues that innovation, policy support, and the involvement of local communities in waste management are critical for overcoming these challenges. Drawing from global examples and traditional Indian practices like Amrit Mitti, the paper suggests that integrating CE into business models can significantly contribute to economic growth, resource efficiency, and social equity. Collaboration across sectors, improved policy frameworks, and a focus on inclusive development is essential for fostering a sustainable, circular economy in India.

Introduction

India has a growing but unorganised small-medium enterprise structure that is unsupported by government programs. In such an environment, Circular Economy (CE) integration seems almost impossible. Yet India has a tradition of recycling, reusing, repurposing, and repairing, although without a long-term vision. The objective of a circular economy is to create a sustainable development environment with economic benefits and reduced dependency upon natural, non-renewable resources. The society must shift to other potential sources (Lieder & Rashid, 2016).

An emerging concept, circular economy, can serve as a pillar for achieving sustainable development goals. However, researchers find it challenging to quantify the relationship between

the two. It might be because of the difference in goals, motivations, beneficiaries, and perception of responsibility. The studies surrounding the relationship between these two are also limited. From the limited number of studies conducted, it can be gathered that (i) SDG 1-12 are directly related to a company's CEBP (Circular Economy Business Practices), (ii) SDG 6-12 may show a direct or positive relationship & (iii) SDG 14-17 show both positive as well as negative contributions.

The incorporation of CE into business models lets SMEs contribute significantly to global goals via a reduction in waste production, lowered carbon footprint and resource efficiency.

This paper argues whether an unsustainable system can transition towards a healthy and sustainably conscious ecosystem. The answer exists in the form of innovation. Anthropogenic activities have led to mass degradation of the environment. Studies on sustainable transition look at these challenges and assess the need for a shift to a new kind of socio-technical system. It implores overcoming the rigidity and path-dependency of already institutionalised structures. The issue arises in ignoring the ordinary, day-to-day aspects of life where a series of small steps lead to more significant developments. Even the widely accepted definition of sustainability neglects to take into account the local problems of livelihood, inequity and social divisions.

Background

It is essential for India to lean towards CEBM. The country continues to struggle with climate mandates and has problems with resource efficiency, pollution and low industrial productivity. Yet, at the same time, it has the most significant potential for CE transformation. 94% of business leaders felt that CEBM could be mainstreamed. Out of these, 77% are focused on CE strategies to meet decarbonisation goals. CEBMs suffer from technical and policy problems and are facing implementation challenges. Several areas, such as theoretical conceptualisation, geographical coverage, and social and equity concerns, remain unexplored. This might also be the reason for the limited market penetration. Other reasons might be a lack of capital, high investment costs, consumers' rigidity of supply chains, insufficient funds or incentives and adverse rebound effects (Retamal et al., 2021). The focus of CEBM is on the economic, technical, or environmental aspects. It, thus, ignores the social dimension, which is vital for the successful implementation of projects in India, where low-income groups play significant roles in waste management activities.

Specific strategies need to be followed for an efficient CEBM and fulfilment of SDGs. These include: (i) Government as well as firms need to promote judiciously enabling factors like policy measures and education (ETC Eionet, 2021), (ii) There is a need for simplification and

facilitation for adoption so that it could actively engage ordinary people to become main stakeholders (Rosa et al., 2021) (iii) Innovation and increased consumer interest in green products along with significant upheaval of current policies will lead to increased market penetration (iv) Social strategy should keep in mind areas such as labour practices, work conditions, human rights, inclusivity and product responsibility (Padilla-Rivera et al., 2020) (v) They might also take into consideration eco-designs, labelling standards, recycled content mandate, EPR (Extended Producer Responsibility) Schemes, etc. (OECD., 2019). (vi) Collaboration across various sectors can foster transformation in the CE ecosystem.

According to the Brundtland Commission's Report (Our Common Future, 1987), poverty and environmental concerns are interlinked, and the latter cannot be achieved without the eradication of the former. It viewed poverty as a threat to sustainability. Agriculture is central to sustainable transition. It requires innovation and the creation of newer connections in the system. However, there are certain schools geared towards participatory environmental restoration. Studies are being conducted in search of a more ecologically favourable method of farming. Now, researchers are looking to traditional practices.

One such method is called Amrit Mitti, where dry leaves and other wastes are composted with the help of Amrit Jal (a mixture of dung, urine and black jaggery). Decomposing microbes in the dung multiply due to the environment provided by urea, and the jaggery helps in fermentation. The Amrit Mitti, a nutrient-rich soil, is then used to grow fruits and veggies. This was a people-led movement which awakened the Municipal Corporation, too.

There's no doubt that India is one of the fastest-developing economies in the world. Poverty casts a shadow on this optimistic fact. One of the reasons is the declining labour capacity in agriculture, which has left many unemployed. Education is not the answer as, according to research, the educated find it even more challenging to find a job. Plenty dream of starting their own business. Yet there's the absence of investment and other threats. People have to struggle just to meet their basic needs. In spite of the government's attempts, many remain unaware of policies and projects to better their conditions.

There's a general belief that the presence of industry and MNCs means a lack of resources, especially water, for the residents. The rich drain the groundwater for free and sell it at exorbitant rates, while the poor have to buy it from them. This vicious cycle has led to deprivation in the agricultural sector due to the absence of water for irrigation. To counter this, villages are resorting to drip irrigation and crop selectivity.

For drought-affected areas, the transformation is a significant challenge. The use of chemicals and other unsustainable practices make the land barren and also decrease yield. To bring forth a

green revolution, they had to change their cropping pattern from drought-resistant crops to mono-crops without mitigating consequences. A key initiative was to convince them to take up millet production and then to build up a customer base. There's also a shift towards organic farming that's observed to reduce input costs. However, the certification process is costly, and exporting it is expensive for poor farmers. The inherent realisation was to strike the consciousness of Indian consumers. One of the ways is the PGS (Participatory Guarantee System) of certification, which is when fellow farmers certify each other's produce. They have now built a trusted system and shown that social innovations are the need of the hour, along with consumer linkage.

Another issue is waste management. Waste is either thrown in landfills, on the road or burnt. And yet, there are plenty more to deal with.

Flipkart, India's leading e-commerce website, collaborated with WWF for Un-Plastic Collective to combat plastic leakage in its value chain. It follows the guidelines provided by Plastic Waste Management Rules, 2021, like identifying and banning single-use plastic items. It works with PRO (Producer Responsibility Organisation) to collect and channel plastic packing. They have employed no package shipping to eliminate the requirement of outer packaging. Flipkart also resorts to recycled paper for invoices. Rather than bubble wrap, shredded paper, again recycled, should be used. As a cherry on top, its subsidiary Myntra is 100% plastic-free.

Pollution and other environmental factors are also causing health problems. Due to global warming, there are increased instances of mosquito-borne diseases. While factories are kept out of cities, the scorn is borne by the villages, who are ignored for the sake of development.

To counter these issues, some agricultural villages resort to biogas tanks. Here, after fermentation, organic waste is converted into cooking fuel that reduces dependency on non-renewable resources. The people of the lowest rung don't believe in throwing away anything, from using cow dung for minerals to using straw from palm leaves as a brush. CPR is seen as an alternative to the collection of plants on government-owned land. Common Pool Resources refers to an area not owned by private corporations where the marginalised can collect plants, wood, etc. Often, these areas are the only assets available to the poor. CPR is seen as a relief from a lack of resources.

While development is fast, it's not fast enough to meet everyone's needs. By itself, too, it gives rise to newer problems. While there are incentives in place to move towards sustainability, there is a need to involve people. It could be used to broaden the discussion around the vast possibilities.

Discussion

Twenty-eight member states in the EU have taken up waste minimisation and energy efficiency measures and are redesigning their products to use renewable sources of energy (Katz-Gerro & Lopex Sintas, 2019). Several studies have placed emphasis on business models and government incentives for CE adoption. SMEs adopting CE in France, on the other hand, have no profound effect on the economy. This is despite the fact that SMEs in France achieve high revenue, growth, efficiency, waste reduction and well-being standards. This might be because design and production are the only things contributing to CE. Other functions still have room for growth.

Spain is also said to achieve high environmental performance. Economic and social well-being continue to remain stagnant despite higher revenue and energy and resource efficiency. To achieve sustainable performance, Spain must improve its production, distribution and reverse logistic function. Germany has done an excellent job of commercialising sustainable technology (Schaltegger & Wagner, 2011). With its focus on development alongside the minimisation of environmental repercussions, green startups have become an integral part of Germany's economy. They did it through a new imaginative approach to the problems than other startups. German universities especially play an important role here (Teitel, 2000).

The most requested policy objective in Germany is to address climate change (Kuckertz et al., 2020). Green startups are technically more prevalent in research and development sectors, i.e., climate-sensitive ones like energy, agriculture, real estate, and tourism.

The problems faced by green startups in Germany include sales and client acquisition, product development, and access to financing and cash flow. To counter capital problems, Germany has provided incentives to green companies. They are granting public contracts to these companies and are also simplifying and streamlining the process.

The world is going digital, and with it, small businesses are not lagging behind. E-commerce has offered plenty of choices to SMEs to reach consumers, and they flourish online. They provide a platform for direct interaction between sellers and consumers, thus accelerating the process. The internet is rightly called a game changer as no longer SMEs have to depend upon domestic trade. It has become a tool to challenge the monopoly created by multi-conglomerates. The tool boasts several advantages, such as empowering SMEs to compete effectively with local, international, and national companies. It fosters an environment of possibilities by offering easy and convenient ways to transact businesses with no limit on operations. They also provide a platform for competition and challenge monopoly. Several reasons might be behind this adaptation: (i) The cost-effectivity of the medium helps in the expansion of business via growth in sales, (ii) Increased geographic reach, (iii) Increased business profitability, (iv) Higher revenue results in

more profit and an increased consumer base, (v) Direct communication between seller and consumer eradicates the concept of middlemen.

Yet, only 27% of online SMEs use e-commerce. Observations state that smaller organisations find it difficult and, indeed, are less likely to transition online when compared to their larger competitors. This might be because of the following reasons: (i) Expensive implementation and operationalisation, (ii) Financial gap and inadequate financing, (iii) Absence of required training and support.

On the positive side, this is beginning to change with SMEs converting online, increasing at a rapid rate.

This can be evidenced by App-based grocery and food delivery services. The reasons behind this can be attributed to technological awareness, access to high-speed internet and the influence of the pandemic. A transition from offline Kirana stores to Zepto or Blinkit can be seen in day-to-day life due to the convenience offered by these platforms. Some conveniences include the ability to compare prices and products across the internet, doorstep delivery and an assortment of products with a COD option. It's nothing more than a revolution catalysed by technological advancements. In spite of the growth, delivery apps boast a mere 5-8% of the overall market share. The most significant barrier to the growth of such a company is the delivery, handling, and other miscellaneous fees they charge. Mere 3% are willing to pay them.

Experts speculate about the future of Q-commerce. Many think of it as a bubble waiting to burst, although it does not disappear entirely due to an increase in income level. Probability talks of packaging chargers, increased delivery charges, reduced discounts or freebies, ad monetisation, etc. They might also pervade other sectors of life, like handyman services. They provide incentives to grocers to utilise technology to provide an alternative solution to customers and keep the competition growing. Grocers can provide premium delivery, low or zero delivery fees, batch deliveries, etc, to target customers. In the absence of long-term strategies, the market is getting oversaturated with profit challenges that point towards industry consolidation.

Conclusion

As of October 2024, India has 116 unicorns, including Zepto, Rapido, Porter, etc. Prime Minister Narendra Modi also recognised January 16th as the National Startup Day to promote innovation and technology. Many of these startups contribute to the development of the green sector by innovating new ideas to facilitate sustainability. The incentive behind it comes in the form of mitigation of damage and customer support. They use technology to lay the foundation for an ecologically viable world (UNCTAD, 2017).

Such green sector companies are filled with a vigil to jump across hurdles and contribute towards overall wellness. Plenty of investments are made in startups that are sustainable, especially those related to transportation and energy. Yet the waste management industry is soon catching up (Rissman et al, 2020).

Yet the biggest hurdle is the lack of patient capital, which prevents many startups from going mainstream (UNEP, 2016). They require assistance for technical and scientific research along with academic collaborations. Such hurdles can be mitigated via grants, capital, subsidies and incentives (Lehrer & Asakawa, 2004). Once an entrepreneur identifies an area supportive of SDG combined with experts, raising funds is more accessible.

There's a demand for investments in green sectors, and green finance is critical. Consumer pressure also facilitates development by sustaining competition and creating pressure. Stress must be put on risk mitigation mechanisms. Increased expenses are deterring businesses from entering into green sectors. Risk mitigation might come in the form of first-loss guarantees and subsidies. Easy availability of quality green products can help expand green finance. A law must be made to force companies to disclose the impact of their business on the environment. Mandatory disclosures can assist financiers in making informed decisions. The government must also promote green financing and green bonds in the union budget to promote investments and provide incentives.

Repercussions can no longer be ignored. Production and consumption have to be seen along the lines of ecological and social frameworks as well. The depleting level of groundwater is a testimony to this. A need to shift from technical solutions to institutional reforms must be felt with the objective of sustainable transition. There needs to be an agency of producers and consumers with a mutually inclusive relationship rather than one with weight tilting to the detriment of the other. Innovative methods must be sought after to build capacity for new forms of interaction. Change is a non-linear process with several bases, and understanding needs to be developed.

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