

Role of 'Circular Economy' in Transformation of Indian Economy from Developing to the Developed Status: An Overview

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Abstract

Today, the economies are passing through hyper-competitive business environments and the modern enterprises including small and medium enterprises (SMEs), therefore, have to adapt themselves to meet the needs of the changed scenario of the manufacturing world. In this context, one recently emerging concept in the field of global as well national economic development has come to be named as 'circular economy'. As the word 'circular' indicates, it is a 'closed loop system of economics'. Usually, any entity, economic or non-economic, starts its travel from 'cradles with the ending station called 'grave', implying thereby that the life-span may be termed as a journey 'from-cradle-to-grave'. The emerging concept of 'circular economy' demands just stated paraphrase, 'from-cradle-to-grave' to become 'from-cradle-to-cradle' so that the entity travels through the stages of 'reuse', 're-manufacturing' and 'recycling' kinds of strategies. This offers an effective emerging tool which has already made positive impacts when these were employed by large scale concerns. However, on Indian industrial front, such tools remain yet to enter the corridors of SMEs, particularly, in the form of modern tools of logistics strategy. Such an effort of applying such already tested tools to SMEs would prove to be extremely beneficial, particularly when it is observed that the SMEs form a very vital link in the overall supply chain network of even large scale enterprises. Present paper made an attempt to put forth an overview of how 'circular economy' and so-called 'reversed supply chain management (RSCM)' can help India in achieving the status of becoming one of the world's leading nations in the form of a 'developed' power.

1. INTRODUCTION

Human activities are increasing day-by-day resulting in varieties of problems like those related to the environment, culture and society. On the other hand, with the ever growing pace of technological development, at the global level, industrial developments, in general, and small and medium scale enterprises (SMEs), in particular, have been playing a critical role in the economic development both in developed as well as

developing economies like that of India. Today the economies are passing through hyper-competitive business environments and the modern enterprises including Small and Medium Enterprises (SMEs), therefore, have to adapt themselves to meet the needs of the changed scenario of the manufacturing world. In this context, one recently emerging concept in the field of global as well as national economic development has come to be named as 'circular

economy'. As the word 'circular' indicates, it is a 'closed loop system of economics'. Usually any entity, economic or non-economic, starts its travel from 'cradles' with the ending station called 'grave', implying thereby that the life-span may be termed as a journey 'from-cradle-to-grave'. The emerging concept of 'circular economy' demands the just stated paraphrase, 'from-cradle-to-grave' to become 'from-cradle-to-cradle' so that the entity travels through the stages of 'reuse', 'remanufacturing' and 'recycling' kinds of strategies. Present paper made an attempt to put forth an overview of how 'circular economy' can help India in achieving the status of becoming one of the world's leading nations in the form of a 'developed' power.

2. CIRCULAR ECONOMY (CE): THE CONCEPTUAL FRAMEWORK

The main target of the CE is to minimise 'waste' if it cannot be eliminated. At the global level, according to the RLA site (2019), the volume of returns annually is estimated at a cost between \$150 and \$200 billion. This represents approximately 0.7 percent of GNP and 6 percent of the Census Bureau's figure of \$3.5 trillion total U.S. annual retail sales. It has been estimated that only supply chain costs associated with logistics average between 7 percent to 10 percent of cost of goods. So far as the National scenario is concerned, in one of the recent study (Singh, 2017), it was reported that 'the Indian Micro, Small and Medium Enterprise (MSME) sector is of significant economic importance and contributes to 8 percent of Gross Domestic Product (GDP) and approximately 46 percent of the total exports . MSMEs consist of 36.17 million units and

provide employment to over 80 million people'. On the other hand, such industrial developments are responsible for '70 percent of the industrial pollution, resulting in \$ 32 billion environmental cost, serious health hazards and permanent damage to the natural environment' (Singh, 2017). Of late, India has taken initiatives in terms of the CE application exploration by way of collaborating with such nations as Japan, Germany and European Union to contribute towards the waste management at the National level. CE strategy not only targets at either elimination or minimization of waste but also significantly contributes to the conservation of environment along with economic development of the country. Thus challenges like resource efficiency, environmental protection and waste management can be successfully combated by the industrial sectors if they get equipped with the weapons of manufacturing strategies like 'circular economy'. This is basically dependent on the new framework commonly called as 'supply chain logistics (SCL)'. This offers an effective emerging tool which has already made positive impacts when these were employed by large scale concerns. However, such tools remain yet to enter the corridors of SMEs, particularly, in the form of modern tools of logistics strategy. Such an effort of applying such already tested tools to Indian SMEs would prove to be extremely beneficial, particularly when it is observed that the SMEs, at the National level form a very vital link in the overall supply chain network of even large scale enterprises. Such strategies, in general, when adopted in all the human activities including industrial, lead to yield a nation to be termed as a 'developed' nation.

4.ECONOMIC TRANSITION FROM ‘LINEAR’ TO ‘CIRCULAR ECONOMY’

The entire infrastructure of economics in terms of the production and consumption models is based on the concept of a linear economy, following its state of journey from ‘cradle-to-grave’, Thus, in the classical economy-framework like this, ‘waste’ was taken for granted in any kind of human or economic activity. In the process of transition, when a nation switches over from a ‘linear’ to the ‘circular economy’, the major scale of measurement would be in terms of the yardstick termed as ‘economic value’ of the resource utilized in the economic activity of the economy. All the resources, utilized, have to be associated with a ‘value’, be it environment-related or pertain to the culture or society. Such a measure, undertaken in this process of transition from a linear economy to the circular economy, would result in expressing all the resources in terms of some economic value and this would help in the decision making process of the policymakers like Governmental and corporate sectors. Though the conceptual framework of the CE has already been accepted widely at the global level, its implementation has not been extensively made. For example in India the CE status is ‘in very nascent stage’ (Singh, 2017).

4. SUPPLY CHAIN MANAGEMENT (SCM) FRAMEWORK AND CIRCULAR ECONOMY

Primarily, SCM focuses on management of material flow, information flow, and revenue flow across the whole of the supply chain, whereas, the added word ‘reversed’ to SCM i.e. RSCM strategy involves all the elements of SCM but in the

‘reversed’ order i.e, from customers or end-users to the manufacturers. For reference, the traditional logistics flow is defined by the CSCMP site (2013) as follows: “The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements”. The same glossary defines reverse logistics as “the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal.” Thus, ‘reverse logistics’ or RSCM is quite different from the traditional logistics activities called SCM or forward logistics activities. When a manufacturer’s product normally moves through the supply chain network, it is to reach the distributor or customer. Any process or management after the sale of the product involves reverse logistics. If the product is defective, the customer would return the product. The manufacturing firm would then have to organise shipping of the defective product, testing the product, dismantling, repairing, recycling or disposing the product. The product would travel in reverse through the supply chain network in order to retain or extract any use from the defective product. The logistics for such matters is reverse logistics. Reverse logistics as a research field is relatively new. A body of knowledge is beginning to develop around the reverse logistics field which only emerged within the last two decades or so. Especially during the last decade, reverse logistics

has obtained recognition both as a research field and as a practice. Although reverse logistics has been gaining more and more attention recent years, many companies, particularly, the SME's have not fully realized its importance. For example, the sheer volume of returns generated in many companies, ranged from 3% to as high as 50% of total shipments across all industries. Many other studies indicated the real costs of the returns take up roughly 3%-5% of total revenue. In some industries such as book publishing, catalogue retailing, and greeting card, over 20% of all products sold are eventually returned to the vendor. What's more surprising is that some industries are estimated to have return rates in the range of 30 percent to 50 percent with other estimates are as high as 60 percent. Such statistical data provide a very high potential area of CE applications.

5. CLOSE COLLABORATION WITH THE CUSTOMERS: A PRE REQUISITE OF THE CE

Customers' population plays a key-role in successful CE application. Thus, the recently evolved area of knowledge called Customer Relationship Management (CRM) immensely contributes to the CE mission (Wiki site, 2019). Customer satisfaction is possible only if the offered products or services meet or exceed customer expectations. In today's competitive world of markets, customers prefer the product/service that has a good after-sales-support. Primary objective of CE revolves around 'waste' minimisation/elimination and this strategy demands satisfying the customers' population in all the three stages of honouring the customers' voice: before the design of the product, during its manufacturing

and finally after the delivery of the product. The CE application demands a very high level of linkage between the suppliers and the customers' population right from the cradle of the product to back to the same cradle. To maintain a constant touch with their sold/delivered products which become the customers' entity, the new emerging tools of Information Technology (IT) would have to be used by the suppliers concerned. That would just not be feasible in case of a missing element of the collaboration between the suppliers and the end-users. According to the site of the Aberdeen Group (2019), "very few companies are more than marginally satisfied with their current reverse logistics approach, with nearly 60% reporting that they are somewhat or not satisfied." This does not suggest a satisfied marketplace. Thus there appears to be a need for the SME's to explore this potential dimension of the RSCM.

6. CE ROLE IN PROMOTION OF INDIAN ECONOMY TO 'A DEVELOPED ECONOMY'

Of late, the environmental consciousness of customers and the emergence of strict environmental regulations have pushed industries to think about environmental management also by means of CE implementation. In this context it is essential that those barriers that retard the CE implementation must be investigated by way learning lessons from the developed nations' experiences. We, in India, are among the most emerging economies of the world. Therefore, India has also to get equipped on these lines. Recently Bouzan et al (2016) undertook such a study for Brazilian company and identified and evaluated the barriers for CI in the Brazilian

context. Similar kinds of studies are required to be undertaken in Indian context also.

7. CONCLUSION AND SCOPE FOR FUTURE RESEARCH

Logistics for years focused on the company's ability to get products to the customers as effectively and efficiently as possible. With competition increasing day by day, advanced technological developments and demand in customers' expectations, the suppliers of the products had to make efforts to improve their effectiveness and efficiency in their supply chain. CE and Reverse logistics offer a way in which companies could increase their competitiveness in the market place as well as address the issues mentioned earlier. For obtaining the status of those called 'developed' nations, future economies of the world must get prepared to successfully encounter the industrial world of tomorrow that is getting characterized by such features as a globalized business, market-driven economy, collaborative manufacturing environments, industrial mergers, acquisitions, and alliances etc. Under these circumstances, particularly the developing economies like that of India and other developing nations must get a strong flexibility-based CE and RSCM framework. Of late, there have been many theoretical developments and formulations in the field of SCM and RSCM. Examples include those based on coordination theory, binary logistic regression modelling, contingency theory, information sharing, strategic decision-making among SCM partners, Supply Chain Integration (SCI), immediate and extended SCI scope, collaborative forecasting, pull, and push

systems, efficiency, effectiveness, productivity and performance etc. Application of such tools might enable a firm to cope with the uncertain business environment of tomorrow. Future researches might also aim at the investigations pertaining to 'customer satisfaction' in the CE and RSCM network, associated with the explored SME's. As stated earlier, according to the study of the Aberdeen Group, "very few companies are more than marginally satisfied with their current reverse logistics approach, with nearly 60% reporting that they are somewhat or not satisfied." This does not suggest a satisfied market-place which implies an intense and dire need of research on the topic. Finally, future studies on the topic should indicate how flexibility capabilities enhance the SME's performance in CE and reverse supply chains with higher environmental uncertainty, technological complexity, mutual understanding, and interdependence level among the various kinds of agents (customers, industry and the Government) involved in the process.

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