

Sustainability Driven Innovation: How Indian Companies Are Managing Change?

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ABSTRACT - In past few years the world have witnessed numerous economic, social and environmental issues. World's political and business fraternity is in tremendous compulsion to either disengage economic growth from hazardous environmental impacts or to provide sustainable and real (lean, green and ethical) solution. Pollution, Global warming and societal problems are posing sustainability challenges and continuously aggravating the situation. These worldwide problems which are impacting nearly everybody are putting thrust on global business community to come up with more sustainable products and services. In India too, though some companies have started putting sustainability perspective in their business models and shifting to more innovative solutions to cater changes. Various Research bodies reflect lack of commitment by companies incorporated in India in this perspective. This paper focus on some Indian institutions which have taken steps and bringing change by putting innovative solutions in their business context.

Keywords: Sustainability driven innovation, Indian companies, Change, practices, management, target areas.

I. INTRODUCTION

World's political and business fraternity is in tremendous compulsion to either disengage economic growth from hazardous environmental impacts or to provide sustainable and real (lean, green and ethical) solution. The solution to world's unethical and imbalanced economic growth which is posing a big threat to biodiversity and earth's climate, could be provided by companies. Most of this environmental degradation can be traced back to industrial sector and companies within it. Pollution, Global warming and societal problems are posing sustainability challenges and continuously aggravating the situation. These issues are putting a thrust on global business community to come up with more sustainable products and services. For that innovative solutions are expected that could change people lives with sustainable products, services, processes and business models. In India too, though some companies have started putting sustainability perspective in their business models, the sustainable development and viewing business from sustainability lenses is still in embryonic stage. Various Research bodies reflect Indian company's lack of commitment in this perspective. Multiple Research Report also shows that only few Indian Companies use to produce Sustainability reporting every year which somewhere indicates the lack of willingness among Indian companies but past years this is gathering momentum. Sustainability reporting has become mandatory in

internationally nowadays. This evidently reflects the business intentions of Indian corporate community.

II. OBJECTIVE

The objective of this paper is to study sustainability driven innovation practices in Indian context and to present examples of selected Indian companies who have embraced sustainability driven innovations in their business portfolio. Examples presented in this paper aim to unlock innovation spirit of Indian companies and make an effort by suggesting ideas to tackle sustainability challenges that country is currently facing. Following are Sub objectives of this Paper-

1. To Discuss Sustainability Driven innovation Target Areas.
2. To discuss various approaches that can aid "Sustainability driven innovation" Practices in Indian companies.
3. To Present Suggestions/Recommendations to enhance sustainability through innovation in Indian context.

III. RESEARCH METHODOLOGY

The approach of this paper is to take into context sustainability driven innovation practices being adopted by Indian companies so this paper need to be based on secondary data. Cases of companies taken in this paper

belongs to diverse industries; and the end goal is to take into account best practices from different set of industries. Data, Information and literature review is gathered from various author research papers, various published national and international agencies reports and company's annual reports and websites.

IV. SUSTAINABILITY DRIVEN INNOVATION

While the interest in sustainable driven innovation is expanding rapidly. There is lack of a set upon common definition of "sustainability driven innovation". According to Kennedy et al. (2013), some authors have adopted environment orientated terminology such as eco-innovation, environmental innovation and green innovation. While Analysis by Bergset and Fichter (2015) shows three different and synonymous concepts of green, ecological, and environmental innovation, asserting that the essence of sustainable innovation is infact broading and it includes a social dimension. Hedstrom et al. (2005) defined 'Sustainability-Driven Innovation' as the creation of new market space, products and services or processes driven by social, environmental or sustainability issues. Sustainability-Driven Innovation requires clear contemplation of environmental, social and sustainability issues imbibed in strategy and innovation process of companies. Fichter and Pfriem (2007) put forth sustainable innovation concept as "development and implementation of radically new or significantly improved technical, organizational, business-related, institutional or social solution that meets triple bottom line of economic, environmental and social value creation. Also, it contributes to production and consumption patterns that secure human activity within the earth's carrying capacities". This paper is focusing on sustainable driven innovation to circumvent the meaning "sustaining of innovation" in itself.

V. SUSTAINABILITY DRIVEN INNOVATION TARGET AREAS

Capozucca and Sarni (2012) states in their Research report "Sustainability 2.0-Using sustainability to drive business innovation and growth" by Deloitte in 2012 states that companies that embraced sustainability position themselves as "Innovative leaders", generate new and better ideas and enjoys greater differentiation by imbibing sustainability into their innovation process. Keeble et.al. (2005) mentions in "Innovation High Ground" survey Report that 95% of companies taken in research statistics believe Sustainability-Driven Innovation can bring business value and 60% of them see future benefits and prospects at top line and 43% see at bottom line. Nidumolu et al. (2009) suggest for being sustainable and people conscious. The authors suggest organization to 'view compliance as an opportunity' and 'make value chains more sustainable'. They emphasizes on 'designing of sustainable products and services' by 'designing new and

sustainable business models'. He also recommends a system level change by 'exploring next practice platforms'

A. SUSTAINABLE PRODUCT & SERVICE OFFERING

Capozucca and Sarni (2012) argues From Business point of view sustainability perspective could be a game changer for any organization and it can steer innovation by instituting "new design constraints" that somewhere shapes the usage of key resources like carbon, energy, water, waste and materials in products and business processes. Number of companies are working towards business concepts that solely caters 'Bottom of the pyramid' by delivering sustainable products for below the poverty line population. These Business innovations based on sustainability can be for those in the lowest socio-economic strata. TCS Innovation Labs has created an innovative Farmer application product 'mKrishi' (Winner of Qualcomm Wireless Reach Funding Programme) in 2007, with a purpose to address rural market connectivity, solves governance problem and addresses sustainability management. mKrishi gives up-to-date weather and pricing information in farmer's local language in case they are illiterate. TCS has also used applications like sensors, camera phones, India's cellular network and GPS technologies to serve environmental information to agriculture experts, who in turn provide tailored advice to farmers. Tata group is evolving a business model involving operators, local franchisees and subject matter experts. [15]. According to Frank et.al. (2012) The Sustainable Product and service offering can be made through 'Green' products, designing for greener manufacture and recycling, developing service models replacing consumption/ownership models.

According to Stevels (1997), Better product could be delivered by instituting sustainable innovation in Product and service offerings. This could be done by Incremental Innovation (small, incremental and progressive improvement in existing product or service), by Redesigning of existing product, by Giving Functional Alternative of Products and by initiating system level changes for making sustainable society where this can be done by resorting to open innovations. Bakey's edible cutlery has formed BK Edible Innovations which has worked on concept of Edible Utensils made from baking a mix of variety of flours. Impressed by their healthy, Hygienic and environmentally-friendly edible utensils, ITC Welcome Group hotels want to introduce their product in their menu. Strong Demand is coming from Singapore, Canada, New Zealand, Japan and China for edible chopsticks in place of disposable chopsticks [20].

B. PROCESS INNOVATION

Process Innovation can be initiated by improving manufacturing processes, including lean systems in manufacturing organization and also across supply chain,

and by using green logistics approach. Hero Group has initiated a change programme “BRINGING GOODS to MAN” and redesigned its material movement system within its manufacturing plants hence increasing efficiency of material movement in their manufacturing plants thereby increasing efficiency of manpower and decreasing their stress and exhaustion time in material movement [8]. ONGC - Oil and Natural gas Corporation Limited in collaboration with Statoil hydro of Norway has worked on Carbon Capture and Sequestration (CCS) for Enhanced Oil Recovery (EOR) hence making use of emitted CO₂. Emitted CO₂ from the Hazira plant is transported to Ankleshwar and pumped into EOR machines. The company is continuously working on innovating technical solutions to reduce gas flaring [12]. Orchid Ecotel Hotel provides training to its staff to increase staff environment awareness for its environment management system (EMS). It is strengthening operations of hotel's environment management system (EMS) about actions and processing which could have major environmental impacts. Company strictly follows ISO 14001 standards. The Environment Manager and Department Heads draw up annual training schedules for various segments based on training needs identified by respective departments [21]. JSW Steel is one of the organizations which keep environmental training on its priority. It specifically includes Special training and awareness programmes on environment management, its protection and pollution control techniques. Company strictly follows ISO 14001:2004 standards. Training evaluation is done through a feedback form and its effectiveness is ascertained by Reporting officer or HODs [9].

C. POSITION INNOVATION

Position innovation can be accomplished by rebranding company as ‘green’ organization and by meeting needs of bottom of pyramid. YES bank has differentiated its position in banking industry by using sustainability as a key. YES Bank's Vita Goat Programme aims to tackle malnutrition and livelihood deaths in rural India. It is giving employment by utilizing low-cost soya machines and supplying soya milk to children. YES Bank creates a sustainable business model for the wellbeing of consumers and sellers of high-protein soya milk. VitaGoat machines were deployed at various Co-operative run school and ensures children nutrition with soy milk or soy paneer. Maharashtra Women and Child Development Ministry, Vigyan Ashram and the World Bank collectively implementing Vita Goat machine in various statewide programmes [17]. TATA Group occupy an incredible position in the Indian business Fraternity. TATA Group has set itself as a case of business ethics either by bringing affordable Nano car for masses or by investing in ecological sustainable start-ups, TATA group is meeting expectations of world. In 2018, Tata steel has been titled

as industry leader in steel industry globally for adopting sustainable business practices [15, 18].

D. BUSINESS MODEL INNOVATION

Business Model Innovation conceptually means a system level change within organization. This model innovation looks beyond technology advances in product and service. This innovation tries to leverage company cost model and value chain to deliver sustainable value. Selco India take the credit by introducing innovation in business model in solar energy area. Selco has adopted reciprocal and mutual business model. Not only it provides customized solar lighting solution but also provide tailored loan and credit packages to buyers. Selco is also leveraging its efforts to environmental sustainability by Converting solid waste to electricity in south Indian rural areas [14]. Husk Power System (HPS) is in rural electrification business touching almost 2 lac people lives in Bihar. HPS has built a unique model for delivering electricity to rural masses in which they are also following two pronged approach. They obtain Agricultural waste from rural people for generating electricity at mutually agreed price and use their own patented biogasifiers to generate electricity. They have made decentralized distribution system which is managed by the same local community thereby meeting needs, generating employment and making a self-sufficient village economy [19]. Biodiversity Conservation India Ltd (BCIL) is offering solutions to sustainability challenges by creating a business model which offers opportunities to grow exponentially. BCIL has demonstrated resource sensitivity by identifying a set of technology in making building, energy, and water management that are financially viable. It is achieving its objective by designing “ZED” homes at three levels from values to designing architecture to detailed drawings of concept. Its aim is to increase consumer savings on water and power bills and also making organic fertilizer by treatment of Waste [24].

VI. DRIVER FOR “SUSTAINABILITY DRIVEN INNOVATION”

In existing literature, there is no absolute drivers of sustainability driven innovation. India being a developing and over populous nation is facing number of social, economic and environmental challenges. These Challenges in itself are profound opportunities for Indian business Fraternity. From poverty, natural resource depletion, housing, sewage, electricity, education to transport, every sector is at critical juncture and hence posing a problem to social unrest. By Making India a sustainable place to live is in itself a great and exciting opportunity. Those companies which aim for sustainable driven innovation should have clear vision about how they will be going to reduce poverty and can increase resource efficiency, and how will they provide products, services and solutions that will meet sustainability challenges. Indian has demonstrated Initiatives at International platforms to

reduce its carbon emission by entering into Paris climate Agreement. Goals of lesser carbon emission could be achieved only by adopting “sustainability driven innovation” based technologies which in turn also make sure ecological balance of earth is maintained. These are some opportunity areas which companies can cash out by putting head and fund in research. Also as a technologically developing nation, we are miles behind to our neighboring nation China. Indian companies can use Sustainability driven innovation as their competitive Advantage. Indian Companies has a long way to go to achieve its sustainable development path. Lot of Indian companies which through their sustainability driven innovation practices has made a hole in wall and succeeds in providing sustainable and inclusive solutions for different types of challenges India is currently facing. Dow Jones Sustainability World Index, launched in 1999 use to evaluate corporations worldwide on various sustainability criteria’s like social, environmental and governance. Unfortunately only eleven Indian companies from different set of industries has secured place in 2018 in this index. Some of the companies who have secured place in this index are Tech Mahindra Limited, TATA Steel, Mahindra & Mahindra Financial Services, Tata motors,

Dr. Reddy’s, Glenmark Pharmaceutical limited, Wipro, Infosys, YES bank, Mahindra and Mahindra limited and TCS [22,23].

VII. APPROACHES FOR “SUSTAINABILITY DRIVEN INNOVATION”

According to a WWF and CII-ITC CESD report “Sustainability as a driver of Innovation and Profit” (2008), for improving environmental condition and to stop further deterioration, Sustainability driven innovation can be embraced by three types of Approach and these can coexist in an organization at same time frame. Grayson et al. (2008) states “a vision of corporate sustainability that places an emphasis on innovation as the means to add value, not just to the bottom line, but to the environment and society at large.” Grayson et al. termed the approach S2AVE (Shareholder and Social Added Value with Environment Restoration). This approach emphasizes that any organizations can address triple bottom line elements i.e. people, planet and Profit simultaneously and profitably, by becoming innovative.

Figure 1: Approaches for Sustainability driven Innovation

The Clean Slate Approach	This approach is applicable if an organization or any of its part (sister concern) want to start from scratch. Then then can initiate by firstly finding out sustainability needs and secondly by providing product or service to cater that need.
The Springboard Approach	This approach is applicable to organization if organization is under external Pressure for its Unsustainable product. Instead of applying defense strategies company should opt to look for new sustainable business solution based on their current strengths. Here Outside Pressure become springboard for Organization to deliver sustainable solution.
The Quantum Leap Approach	This approach could be applicable for organizations having no outside pressure and Organization already have sustainable products and services that could help society become sustainably developed.

It depend on an Organization’s Sustainability vision, objectives and Strategy which approach to adopt. Company Sustainability strategy is about its choice of direction which in turn deals with two key issues. One, Organization Orientation towards Sustainability driven Innovation and sustainability issues. Second, Management commitment and Motivation toward sustainability challenges and “sustainability driven innovation” solutions. Until Now any entity could be successful at the expense of environment degradation. But as universally business Paradigm is changing, Time has now came to respond to sustainability challenges through Sustainable driven innovation.

VIII. FINDINGS

There is no doubt that some Indian companies by adopting sustainability driven innovation had turned their problem and risks into Solutions. Indian Business houses had realized that they cannot survive now without having sustainability vision imbibed in their mission in the current climate. Even Organizations without outside pressure are now encourage enough to innovate given proper mentoring. Companies have started now differentiating themselves from rest of the herd but has also made “sustainability driven innovation” their competitive advantage. So in coming time now these organizations need to design measures and indicators for sustainable value generation.

Firstly, by delivering Sustainable and innovative Product and Services to consumer. Secondly, by Top management commitment towards Sustainability driven innovation practices and hence can build a culture that can thrive upon sustainable innovations there is no denying in truth that top Management commitment is nucleus for following sustainability driven innovation path and Thirdly, yet so many companies are doing sustainability reporting to stakeholders. Other companies can also initiate by reporting these initiatives by providing details through sustainability reports every year so that shareholders get to know about culture and initiatives company are taking for making their business more sustainable.

IX. SUGGESTIONS/RECOMMENDATIONS

In India, Innovation is basically company internal affair and matter of choice. According to Global innovation Index report 2018, India ranks 57th among 130 economies and likely to get in slot of top 25 nation's list in next 10 years [16]. Indian companies can initiate by targeting "Bottom of pyramid" market and gradually by developing products according to their needs. Companies should exploit Green growth opportunities by fulfilling regulatory requirements. Companies can also reduce environmental impact by keeping a check on carbon foot prints. All this can be done only by replacing outdated products and processes and by adopting technologies based on "Sustainability driven innovation"

X. CONCLUSION

World is trapped into vicious cycle of sustainability challenges and Business around the globe are running on merely profit and wealth maximization motive. India too is part of this vicious cycle trapped in such a way that basic necessities of millions of Indian people are not met timely. Though some companies have adopted sustainability issue in their business approach but still a larger segment is still in slumber stage. Indian Companies not only can enhance their business value but also can fulfill their corporate social responsibility. Globally there is a pool of investors who watch out for Socially Responsible Investing opportunities so as to park their assets. If companies in India, can convince these investors that their investment from overseas will be channelized and utilized without compromising on things that count to the world, then capital inflow will follow which can be a blessing in disguise for corporations seeking investments for their growth. Certain investors believe that moral consequences of a transaction does matter, and they wish to maintain the morality by way of maintaining sustainability.

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