Supply Chain Social Sustainability: A Comparative Case Analysis in Indian Manufacturing Industries

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Abstract

Sustainability is viewed as possessing economic, environmental and social aspects of business. Firms are increasingly under pressure from stakeholders and social organizations to incorporate all three dimensions of sustainability. Though, the companies have started adopting economic and environmental (green) measures in their activities, the social sustainability aspects are yet to gain momentum. This research aims at studying social sustainability practices of two Indian manufacturing companies that are operating out of two different industries. Two companies one from Oil and gas, and the other from Tyre manufacturing industries were chosen to explore the different social sustainable practices. Particularly, care is paid to the drivers of such business practices and new lessons which can be unearthed from them. This study uses a comparative case study method, thereby first the author identifies various social dimensions based on an extant literature available, subsequently social sustainability practices of two different companies were compared under various social dimensions. A comparison of social sustainability business practices unveils the similarities and differences which led them to different approaches to sustainability. The important outcome of this research is emergence of many social dimensions related to the Indian manufacturing supply chain. Further, it has been found that there were differences and similarities exist between oil and gas, and tyre manufacturing companies. This research is much helpful for the supply chain managers, policy makers to understand diverse patterns of social sustainability and in turn, it can act as a key tool for decision making in sustainability.

Keywords: sustainability practices, social sustainability, social dimensions, comparative case study

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1. Introduction

Carroll (1979) viewed social responsiveness of the organization in four different distinct categories. These categories include discretionary, legal, financial and ethical responsibilities of the corporate. Further, sustainability can be referred as how the corporation in its discretionary responsibilities, manages economic, environmental and social issues to its stakeholders, and others (Elkington, 1998). This is frugal and powerful means of conveying what sustainability means for an organization. More recently, due to stakeholder’s awareness and pressures, corporates have started to incorporate sustainability measures in their supply chain in addition to their traditional parameters such as price, quality, and reliability. However, among all dimensions of sustainability, the literature on social dimension is still growing and least explored. Recently, this is gaining momentum in the backdrop of increasing social issues, which are not just connected to the immediate corporate environment, but likewise to other stakeholders, to whom the corporate’s economic and trade relations exist.

Companies have started recognizing the importance of social and environmental responsibility and their influence on firm performance (Porter & Linde, 1995; Zadek, 2004). Hence, companies are contributing in the form of society upliftment, improving workplace conditions, eliminating waste, and using resources efficiently, etc. For example, Apple’s supplier training program for the duration of 18 months, emphasize on health and safety standards for the employees in supplier locations. This has given them a strategic advantage in the market (Apple progress report, 2014). New approaches to improve corporate social performance worldwide operations, are emerging as a means for the company to improve overall sustainability. This focus is in response to more stakeholder’s demands, government regulations, and criticism from non-governmental organizations and increasing competitive pressure (Sarkis, 1998). For instance, NGO’s and human rights activists have questioned Walmart for procuring “shrimp” from its Thailand based supplier “Matsushita” for non-compliance of basic human conditions in supplier locations (CBS News, 2014).

As the corporate environmental and social issues becoming more salient, the stakeholders wanted to understand how corporate strategies integrate these aspects into the economic goals of the firm (Zadek, 2004). Increasingly, consumers are also demanding the companies to produce high quality, environmentally friendly and safe products with innovative manufacturing processes that are less harmful to the environment and communities (Lash and Wellington, 2007). It is, therefore, the companies to not only practice the sustainability means, but also effectively communicate with its stakeholders and others.

The corporate ability to effectively communicate its strategies and policies through corporate social responsibility reports can improve the stakeholder satisfaction (Esrock and Leichty, 1998). In that direction, many companies have started publishing, corporate responsibility reports that can communicate with the stakeholders about the company's framework in addressing social issues. Especially in India, only 80 listed companies (SEBI) have started complying GRI (Global reporting initiative) norms. SEBI’s recent guidelines mandate that all the listed companies should publish business responsibility report in addition to financial reporting. These reports are often called sustainability reports. This reports act as a corporate barometer displaying its attitude towards social and environmental responsibility and its integration both at corporate level and functional level such as supply chain management. However, there is an interest from academicians and practitioners to understand the different social sustainability practices adopted by different industries in India. This is because the social parameters vary from county to county. These social parameters evolve over a period of time in the societies and it is highly contextual in nature.

In this research, theoretical contributions are two fold, one will be to identify the different social dimensions related to India and second, how these dimensions are practiced in the form of sustainable activities in two different manufacturing set up. Here, an attempt is made to identify the various social sustainability activities carried out by two different companies representing different industries and their position and strategy to address social issues in the supply chain. Further, we seek to find similarities and differences between these practices and how these different approaches lead them to sustainability in India. Therefore, our primary objectives for this research would be

- To identify different social sustainability dimensions related to manufacturing supply chain.
- To explore various social sustainability practices of two manufacturing companies (Oil and Gas and Tyre)
- To find out the similarities and differences in their approach which, led them to sustainability
2. Literature review and problem identification

We attempt to group literature review into three sections, namely the development of social sustainability and how social sustainability has been practiced in the supply chain and social sustainability practices.

2.1. Evolvement of social sustainability

The term sustainability is defined as meeting today’s needs without compromising the future generation needs (Bruntland commission, 1987). Sustainability encompasses all three dimensions (3 BL), such as economic, environmental and social. United Nations Conference on sustainable Development emphasized social sustainability aspects in its agenda-21 that described the promotion of economic growth, creation of productive employment, achieving equality, and reduction of nature use and protection of the natural environment (UNCSD, 1998). Many authors explored social sustainability, according to Beatley (1997) equity is an important dimension of social sustainability that enables equal access and social justice for all economic and social groups (Beatley, 1997). There were several researches on social sustainability and we acknowledge earlier contribution on social sustainability from Sachs (1999), Godschalk (2004). They distinguished the components of social sustainability and its relationship to the overall growth of the society. Sachs (1999) discussed various social elements that include social homogeneity, equitable income, access to goods and services and employment for social sustainability. Some scholars defined social sustainability as “ethical code of conduct for human survival and outgrowth and it needs to be accomplished in a mutually inclusive and prudent way” (Lafferty and Langhelle, 1999; Sharma and Ruud, 2003). Polese and Stern (2000) posit social sustainability as development that is compatible with harmonious evolution of civil society, fostering an environment conducive to the compatible cohabitation of culturally and socially diverse group, while at the same time encouraging social integration and quality of life for all segments of the population. United Nations Division for Sustainable development (UNSD) in its frameworkvia sustainable indicators classified, within the social dimension of sustainable development, are equity, education, health, housing, security and population under the main theme (UNSD, 2001). According to Dyllick and Hockerts (2002), conserving social capital by the direction of eco- efficiency and social-efficiency that can lead to sustainability. The organization for economic cooperation and development (Strange, 2008; OECD insights, 2008) views social sustainability in two diverse dimensions such as human and social, while the human dimension refers to man’s skills, abilities, knowledge and talent, which defines an individual’s performance in the labour market and also relevant to the process of economic development and the social capital facilitates collective actions that are beneficial to the society (Hobbs, 2000; Milward, 2003). Further, the Johannesburg conference emphasized on eradication of poverty, wellness and hygiene and these are an intact piece of social sustainability (Hens, 2005). Dillard et al. (2008) viewed that human well-being, equity, democratic government and democratic civil society are major four important constituents of social sustainability. Some authors, further define social sustainability are concerned with how the social resources are managed which include people skills and abilities, relationships and social values (Sarkis et al., 2010). Social sustainability addresses education, health care, employment, transportation, access to goods and services and housing (Mitchell et al., 2010). Vallance (2011) in his research grouped social sustainability into three categories such as development, social sustainability: focuses on basic needs that includes creation of social capital, justice, equity; bridge social sustainability: mainly addresses changes in behavior so as to achieve bio-physical environment goals; and maintenance social sustainability: referring to the preservation- what can be sustained for long. Therefore, social sustainability is all about how the various social issues are addressed in the society that can lead to sustainability of the human being. Further, we elaborate, the various social issues relevant to supply chain and how these issues are addressed in manufacturing supply chain in the preceding section.

2.2 Social Sustainability and supply chain

Social sustainability in the supply chain can be narrowed down to the product and process measures that determine the safety and welfare of the people in the chain. To understand better, we can still elaborate that how these human and social issues are managed in the supply chain that will affect the firm's sustainability. According to Wood (1991) one need to understand that these social issues in the supply chain should be targeted to whom? And what
issues needs to be addressed and how these can be addressed? When we look to answer the first question, stakeholder theory explains that people spread across three stages should be managed (Freeman, 1984, 2004; Walsh, 2005; Heath, 2006; Campbell, 2007). All three stages of supply chain consist of in-house operations, suppliers, customers, and the external stakeholders which includes society, and NGO’s. In terms of what issues to be addressed, initial research explored supplier labour practices, equitable income, etc., (Emmelhainz and Adams, 1999). Many authors described the social sustainability enactment in supply chain in various forms. Socially responsible organizational buying can be used as an effective tool to bring in social sustainability. This will be done through a skilful policy entrepreneur who can invest his time and institutional policies which can act favourable to socially responsible organizations buying (Drumwright, 1994; Maignan et al., 2002; Carter et al., 1999). According to Krause (1999), social sustainability can be enacted by socially responsible supplier development. He also described how socially responsible suppliers can be acquired. Yet some scholars of the opinion that fair trade practices in the supply chain can lead to social sustainability (Strong, 1997a, 1997b). Further, purchasing social responsibility (PSR) and its impact on supplier and buyer performance was proved (Carter and Jennings, 2000, 2002; Carter and Easton, 2011). Many other studies were done on what enables social sustainability in the supply chain. Notable contributions from the research done by Clarkson (1995), Strong (1997a), McWilliams (2001), Ehrgott et al. (2011), in which they explored various forces, such as customer requirements, stakeholder requirements, employee requirements, and skilful policy entrepreneurs, economic status of corporate and their influences on social sustainability adoption. Lu et al. (2012) described ethical supplier development and its impact on corporate social performance in China. Mani et al., (2014) identified various social dimensions in the supply chain and described how these social dimensions can be effectively used in supplier selection and evaluation in India. All the scholars’ more or less explored issues related to suppliers and in-house operations of the manufacturing plant. However, the issues related to the downstream supply chain were explored the least. Through this research, we attempt to identify various social issues in all three stages of the supply chain and how it was addressed by global supply chains.

2.3 Social sustainability practices in global supply chains

Social sustainability practices can be described as how corporate manages the people in the supply chain by addressing their social issues such as safety, health, hygiene, wages, and labour rights, education and housing etc., which can lead to the sustainability of the firm. In developed countries, social sustainability activities are mandated by law enforcement, however, these exercises in developing economies yet to find momentum. Increasingly, many corporate companies are deemed responsible for the supplier actions related to social and environment practices. Koplin et al. (2006) discussed that how social practices can be integrated into the manufacturing supply chain through case study research. Later, Ciliberti et al. (2007) have grouped all social sustainability practices in selected Italian companies with logistics, social responsibility taxonomy (LSR). Tate et al. (2010) used content analysis of 100 global corporations in their sustainability reports and described various practices of these corporations. Further, some of the global supply chains such as IKEA and BAe have incorporated social sustainability practices both internal and external environments, including suppliers (Andersen and Skjoett- Larsen, 2009; Gopalakrishnan, 2012). Apple is committed to social sustainability practices across the supply chain. As part of their commitment, Apple regularly conducts supplier audit, to be more competitive in the market place (Apple’s sustainability report, 2013). Further, research done on two Spanish companies from two different industries resulted in the emergence of similarities, differences in sustainability practices which led them to different approaches to sustainability (Cambra-Fierro and Ruiz-Benitez, 2010). Further, customer pressures, and SEBI’s (Stock Exchange Board of India) mandatory guidelines, to the corporate on inclusion of business responsibility reports in their financial disclosures, indirectly puts the Indian companies to look for various sustainability activities and their inclusion in their supply chain. Therefore, this research on sustainability will bring more insights into sustainability practices of two Indian manufacturing supply chains operating globally. In this research, we seek to explore the best practices of two different manufacturing companies, belong to different domains, and to find out, whether there is any differences in their practices and how these various practices lead to social sustainability.

3. Methodology

In this research, we have used qualitative exploratory study since it focuses on social sustainability in the supply
chain of Indian Manufacturing Industry. In case of emerging research subjects, the exploratory approach is the most suitable one (Richardson, 1999). Two companies, one from Oil and Gas and another from Tyre manufacturing were selected for the study. These companies belong to Energy and Automotive industries respectively. These were chosen because of their importance in Indian economy. According to McKinsey, The energy and Automotive sectors are far more important than others in Indian economy (Mckinsey insights, 2014) because, India is the 4th largest oil and gas consumer and 7th largest automotive producer in the world. Automotive industry amounts to 22% of manufacturing (GDP) of the country. The Oil and Gas consumption is directly related to the economic growth of the country. Hence, two different companies were picked up from these sectors, which include Oil and Gas, and Tyre manufacturing. The comparative case study method was applied to identify different social sustainability practices in India. Sincere efforts were made to explore the similarities and different approaches of these companies. We used sustainability reports published online from their respective company’s websites. Further, the key informant interviews were conducted during July 2014 to Sep 2014 to bring out more valuable, authentic insights and information. These companies were analysed based on the following key parameters. These parameters were used by earlier researchers and It was helpful in analysing the sustainability of two different industries (Cambra-Fierro and Ruiz-Benitez, 2010; Fayat and Vermeulen, 2012).

3.1 Key parameters used for the study

- General information about the company and the company's inception and existence,
- The supply chain structure, it includes locations of their collaborators, distributors and customers, and the society in which it functions.
- How company understands social sustainability.
- The corporate’s global value system, and strategy for sustainability.
- How the company adopts various social practices and their influence on business and network performance.

Table-1

Details pertaining to the value chain of the company

<table>
<thead>
<tr>
<th>S.No</th>
<th>Parameters</th>
<th>Oil and Gas company</th>
<th>Tyre manufacturing company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Inception</td>
<td>1966</td>
<td>1976</td>
</tr>
<tr>
<td>2</td>
<td>Presence</td>
<td>Over 50 Years</td>
<td>Over 35 Years</td>
</tr>
<tr>
<td>3</td>
<td>Supplier locations</td>
<td>USA, Australia, Europe, East Africa, Middle East and Asia</td>
<td>India, Zimbabwe, Netherlands, South Africa</td>
</tr>
<tr>
<td>4</td>
<td>Plant location</td>
<td>Allahabad, Barabanki, Dahej, Hazira, Hoshiarpur, Jamnagar, Nagothane, Nagpur, Naroda, Patalganga, Silvassa and Vadodara.</td>
<td>Kerala, Chennai, Gujarat (India)</td>
</tr>
<tr>
<td>5</td>
<td>Distributors and customers</td>
<td>India, Middle East and over 100 destinations across the globe.</td>
<td>Over 4000 dealerships in India, Africa, and Europe. Exports to over 100 countries.</td>
</tr>
<tr>
<td>6</td>
<td>Employees</td>
<td>23, 519 employees</td>
<td>16000 employees</td>
</tr>
<tr>
<td>7</td>
<td>Financials</td>
<td>Turn over US$ 75 billion</td>
<td>US$2.34 billion</td>
</tr>
</tbody>
</table>

Source: Author compilation from social sustainability reports published online

4. Analysis and discussions

Social sustainability in the supply chain is perceived as how a corporate addresses social issues in the upstream, and the downstream supply chain, i.e., How the social issues are addressed at supplier locations, in-house operations,
and the immediate stakeholders that involves society, people and consumers. This breaks the clear reason of how social sustainability can be approached (Wood, 1991; Freeman, 1984; Freeman 2004). We explore the social sustainability practices adopted by two Indian manufacturing companies in the preceding section. We also attempt to seek similarities and differences in their approaches in two different industry segments in India.

5. Social sustainability practices in Oil and Gas Company

5.1 Overview of Oil and Gas Industry

As per the recent report, Oil and Gas industry in India is expected to be worth US$ 139,814.7 million by 2015 (IBEF, 2014). With India’s economic growth are closely associated with energy demand, the need for oil and Gas is expected to grow further, creating more growth opportunities for investment. To address the growing demand, Govt of India has proposed several policies that include allowing 100% foreign direct investment in natural gas, petroleum products and refineries. The market size of the petroleum products in India was estimated at 158 million tons (MT). Further, India is considered to be the fourth largest consumer of oil and gas, petroleum products in the world. In India, oil consumption is estimated to reach 4 million barrels per day (MMbpd) by FY16, expanding at a compound annual growth rate (CAGR) of 3.2 per cent during FY16. With the emergence of new oil fields in India, domestic oil output is anticipated to grow to 1 MMbpd by FY16. As per the reports released by the Department of Industrial Policy and Promotion (DIPP), the natural gas and petroleum sector attracted FDI worth US$ 5.13 billion till 2014. According to the projections by the Petroleum and Natural Gas Ministry of India, India’s demand for gas is set to touch 124 MTPA against a domestic supply of 33 MTPA and higher imports of 47.2 MTPA, leaving a shortage of 44 MTPA, by 2015-16 (IBEF, 2013).

5.2 Company background

The company is one of the largest private sector conglomerates in India’s oil and gas industry and one among fortune 500 companies in the world. The company recorded the turnover of 3,397.92 billion and highest ever exports of 2080.42 billion, comprising about 14% of India’s total exports during 2013-14. The company has the production and processing capacity of 67.6 million tonnes of crude oil and consolidated polyester capacity of 2.4 million MT. The company is rated 1st rank in polyester fibre production, 5th rank in PX, and 8th rank in PTA and MEG. The company caters 38% of the domestic demand and exports to 100 overseas destinations. The company’s manufacturing facilities span across 12 locations in India and the overseas presence through associate and subsidiaries extend to USA, Europe, East Africa and Middle East Asia. The company has the workforce of 2.3 million employees belonging to different nationalities. Since the company operations extend to many countries, people and culture, it will be interesting to understand their social sustainability measures.

5.3 Sustainable practices

The foundation for sustainability is integrated with the core fundamental of the company. The chief executive of the company says […] “We are committed to foster the culture of responsible corporate citizenship and create a platform for sustainable growth” […] by Chairman & Managing Director

Environmental and social sustainability practices were ingrained in the whole system of the group company. One can understand from the company’s vision statement that reads “Through sustainable measures, create value for the nation, enhance the quality of life across the entire socio-economic spectrum and help spearhead India as a global leader”. As part of stakeholder engagement, sustainability issues are identified through the challenges the sector faces, peer review and interactions with the key stakeholder group. The issues identified are evaluated for their relevance and impact on social, economic and environmental aspects on an annual basis based on changing business environment.

The company also believes that strong governance is central to creating value on a sustainable basis. The company considers all the stakeholders as a partner in success and remains committed to maximizing the stakeholder value. For example the customers get high quality products at competitive prices and employees enjoy a high satisfaction level that is reflected in low attrition rate and the communities in areas surrounding the company operations have
benefited the presence in myriad ways. The company board has seven corporate governance committees, out of which the committees such as health, safety and environment committee, remuneration committee, and employee stock compensation committees are worth to mention towards achieving social sustainability measures. The company has adopted the best international standards for employee welfare, and strongly promoting the workers' rights to a decent work place. These are ensured across the entire value chain. The focussed training to the employees have resulted in increased skills across all levels. The company has specialized career development and succession planning systems and amply reward the employees with performance incentives and rewards. A satisfied employee quote’s

[…] “The open culture wherein designation doesn’t become a barrier to discuss grievances instills a sense of belonging and respect. RIL also gives you an opportunity to make decisions and hence accept responsibilities that drives you to work better”[...]

The company’s process safety management system (PSM) approach has enabled to adopt best in class safety practices and management system. All manufacturing divisions have been complied with OHSAS 18001:2007 certification. The company respects human rights at the workplace and follow leading international practices which ensure the freedom of association, prohibition of child labour, protection of indigenous rights and the prohibition of bonded and forced labour. The company has well defined steering mechanisms and protocols through which the progress on sustainability is measured. The company has defined six strategic pillars to channelize the efforts on sustainability and ensures the actions are in line with the commitments. These focus areas include, energy security, growth through innovation, environment, product responsibility, health and safety and social institution building. Out of these six strategic pillars of sustainability, we narrow down to three. That includes product responsibility, health and safety, and social institution building which are more relevant to social sustainability.

Figure-1
Social sustainability in the supply chain-diagram depicting social issues in various stages of the supply chain

Source: Created by author
The company believes in taking full responsibility of the products and are adopting the life cycle approach to evaluate environmental and social impact across the value chain. On this journey, the company is a part of responsible care movement and certified to RCMS 14000, conforming to American chemistry council technical requirements. The company focuses relentlessly on safety and health practices at work place. It has achieved 0.099 lost time; frequency rate and the lost day rate were reduced to 20.06 % as compared to the previous year. An employee from Allahabad facility, India says

[...] “The company trains us on a whole lot of safety measures and given priority on safety and health of employees. We continue to enjoy a safer work place without any hassles”[...]

As a part of the social institution building, the company launched ‘Relience Drishti’ Braille newspaper in Hindi and started RK4SD (reliance, knowledge for sustainable development) which aims at capacity building of farmers, fisherman, and micro enterprises by linking the knowledge seekers with knowledge providers through a common technology platform.

A woman from Vadodara, India explains

[... ]“RIL has been an active member in providing vocational training to the youth and women of my village. In addition to tailoring and embroidery training, RIL has provided me a sewing machine, which has enabled me to draw an income of INR 1500 – 2000 per month that helps me support my family, RIL has truly helped me transform from a housewife to an earning member. Inspired by this many women in the village are now motivated to undergo this training”[...]

Further, the company believes in partnering with stakeholders through constant stakeholder engagement mechanisms. Employees are engaged through satisfaction surveys, departmental committee meetings, online performance management dialogue and staff welfare activities. Customer priorities such as product availability, product quality, and safe use of the product, are addressed by customer satisfaction survey, dealer meets called ‘Rishta’ and product information through appropriate labelling. Communities are engaged through company’s trust and foundation through various philanthropic activities. Suppliers are engaged through supplier development programs and supplier meeting. Meeting with trade unions on collective bargaining issues, health and safety ensures employee engagement. The company constantly invests in, educating employees and communities through philanthropy activities. Dhirubhai Ambani foundation extends health and medical benefits across the company.

Overall, the company in its sustainability activities addressed social issues such as health and safety, ethics, education to employees, education to communities, equity, gender discrimination, child and bonded labour, philanthropy, sanitation, sustainable supplier development, and product responsibility for customers.

6. Social sustainability practices of Tyre manufacturing company

6.1 Overview of Tyre manufacturing Industries

In India, the tyre manufacturing industry estimated to be 13,500 core. Tyre Industry provides directly or indirectly employment opportunities for one million people in India. Total tyre production is estimated at 811 Lakh MT/ Year in India. The industry is the major consumer of domestic rubber market and the natural rubber and synthetic rubber are used at the rate of 80:20 percentages respectively in the tyre manufacturing process. There are 40 listed companies in the market and they account for 63% of the total production. In addition to, there are small and medium private companies engaged in tyre manufacturing and they amount to remaining 37% of the production. According to Credit Analysis and Research (CARE), the Indian tyre industry is expected to show the steady growth rate of 9-10 % over next five years. The growth of the sector is closely linked to the expansion plans of the automobile industry (IBEF, 2013).

6.2 Company background

The company is one among top 3 Tyre manufacturers in India with the manufacturing facilities located in India, Europe and South Africa. The company has achieved compounded annual growth rate of over (CAGR) 27%. The company’s journey into Tyre business started in 1976 in India, later expanded its presence in many countries and rated among top 15 tyre manufacturers in the world with over 16000 employees across many continents and the revenues of 2.34 billion. The supplier locations spread across different countries that include India, Zimbabwe, South Africa, and Netherlands. Since the company’s presence in different geographies, cutting across various
cultures, It will be an interesting to understand that how the company manages social sustainability activities.

6.3 Sustainable practices

Sustainable activities are driven by responsible governance mechanisms in the company. The sustainable governance implies, integrating various sustainability aspects into the realm of the company’s management. Over the past three years, since the commencement of the sustainability journey, the company has further enhanced the management system and improved upon the environmental and social performance. Further, the company is working dedicatedly to incorporate impact aspects of the business into the operations in Africa, Asia and Europe. A sustainability management framework has been introduced and further institutionalized to aid the planning and sustainable led initiatives across the operations. The framework has four designated stages such as, planning, implementation, checking and corrective actions and review. Each designated stage is assigned to the senior executives to monitor and implement effectively. Operations in the Netherlands have won Golden prima award-2012 for integrating sustainability into the operational aspects of the company and the award jury highlighted the involvement of employees from the shop floor to the top management, in working on integrating sustainability into day to day operations. The company’s disclosures on environmental and social performance metrics are on par with global reporting initiative (GRI) guidelines. The company’s responsibility driven approaches fully encompasses the company’s supply chain. For example the code of conduct signed by suppliers ensures compliance pertaining to hygiene, and environmental, social factors including human rights. The supplier audit practices introduced into the supply chain further facilitate the code. The company understands and respects its role and responsibility towards ensuring benefits to the stakeholders and society at large. The company has identified different stakeholders that include, investors, employees, customers, local community, regulatory body’s and suppliers.

Figure-2

The company has instituted many commendable environmental friendly, sustainable activities in the entire supply chain. Since our research focus is limited to, social sustainability activities, we narrow down our focus to social aspects. As part of labour and employment practices, the company has devised a mechanism to hire women workforce equally in the operations that include shop floor, corporate and regional offices. In addition to increasing the gender diversity at the workplace, the company has the mix of experienced and Gen Y workers. The employee turnover has been considerable reduced from 12.8 % to 6.84 % because of value system based beneficial practices towards making it an employer of choice. The company has a dedicated ethics and social committee that deals with the issues related to employee equity, sustainability and anti-corruption. The employee diversity is promoted through internal affirmative action policy which promotes the advancement of previously disadvantaged employee under the system into more senior positions based on merit. The employee wages are on par with the industry...
standard, in addition to, gender diversity, and collective bargaining through negotiations for all employee related issues are encouraged. As part of employee benefits, healthcare, disability and invalidity coverage, maternity, paternity, retirement pension, and life insurance are covered. There is a structured process for training, within the organization at both and corporate levels. First skill requirements are mapped and the training calendar is developed for functional and soft skill training for lower to upper level executives. The company plants are certified with OHSAS 18001 safety management system. In all the operations, the safety and health committee has been instituted to ensure effective governance and management of health and safety performance. The company is committed towards ethical working practices and human rights and complies with international, national and regional norms to fair and ethical working practices. The company employees are made aware of the expectations to not to engage in corrupt practices in their business dealings. Child and bonded labours are prohibited in all the plants and no incidents related to child and forced labour was reported in 2013. The company encourages freedom of association, and collective bargaining except Chennai plant. As per the gender discrimination policy adopted by the company, no employee is discriminated on the basis of gender, race, religion, caste, age, marital status, and disability. In all sales and marketing operations, local staffs are hired, and they were trained in functional and soft skills aspects. As part of product health and safety responsibility, a life cycle assessment of the impact of Tyres was carried out by European tyre manufacturers association (ETRMA). The company’s endeavour to work closely with the partners, partner code of conduct (PCC) norms is stipulated. As per PPC norms, all the suppliers are audited periodically for the compliance of health and safety, bonded and child labour, working conditions, hygiene and ethical practices. For customers, the periodic customer satisfaction surveys are conducted and the feedback on product performance is obtained and the customer grievances are addressed.

The company’s community development initiatives, focuses on improving the livelihood, and general wellness of the people near to the manufacturing locations. The community initiatives undertaken by the company follow a clear and well defined strategy, through which the needs of the communities are met. The company follows a structured approach that will identify the needs of the communities and prioritise the needs. According to the company’s understanding of needs, the community development priority areas were identified that include income and livelihood generation, health, sanitation and hygiene, education and environmental protection. Under these priority areas, many activities were carried out by the company.

7. Cross- Case comparison and analysis

In the following section, we will discuss the similarities and differences between both the cases with regard to their sustainability initiatives across the supply chain.

Both the companies have integrated sustainability in their policy and corporate strategy. Both Oil and Gas and Tyre manufacturing company have achieved global reporting initiative (GRI) compliance approach to sustainability reporting. Oil and Gas Company have started incorporating sustainability in their operations much earlier, whereas the Tyre manufacturing company has started sustainability initiatives few years back. Both have structured approach for planning and implementation of sustainable activities and as well monitor periodically. As part of supplier sustainability activities, Oil manufacturing company follows activities such as timely payments, and supplier training, and feedback. Whereas, the Tyre manufacturing company has the set of guidelines called partner code of conduct (PCC), in addition, they also have auditing systems for social sustainability compliance in supplier locations. In house operations, Oil and Gas manufacturing company, addresses, social issues that include child and bonded labour, gender discrimination, equity, health and safety, wages, education, and ethics, etc. As per as a Tyre manufacturing company is concerned, it practices issues such as gender discrimination, workforce diversity, child and bonded labour, ethical issues, and health and safety. However, the Tyre manufacturing company adopts different activities based on respective manufacturing geographies since it operates out of 3 different countries. The tyre manufacturing company addresses issues such as labour, working conditions etc., and collective bargaining only in few plants because of the difference in social issues in various manufacturing locations. The Tyre manufacturing company emphasizes social issues in distributor and dealer locations also. Whereas the Oil and Gas Company adopts practices, that include product availability, education of the workforce, and dealer meets etc. As per as customer front, both the companies follow product responsibility, and product availability, product information, customer feedbacks, and ethics. Therefore, It is evident that both the companies through various approaches and practices, could achieve social sustainability in their respective domain.
7.1 Different social sustainability practices carried out under various stages by both the companies in India

7.2 Supplier stage practices

Oil and Gas Company has instituted the mechanism in which local suppliers are developed and the materials are sourced from them. In addition the company also awards contracts to local vendors for vehicle hiring, material handling and transportation. Tyre manufacturing company it its supplier initiatives not only purchases from local suppliers, but follows a Total cost of ownership (TCO) policy for materials procurement. The tyre manufacturing company procures majority of supplies from Block economic empowerment enterprises in South Africa (BEE). Both the oil and natural gas and Tyre manufacturing companies, audits suppliers for human rights violations prohibits child and bonded labour in all the plants. The oil and natural gas company issues “suraksha” certificate and GPRS system for supplier transportation. The company strictly enforces Employee health and safety (EHS) program in supplier locations. As part of an education initiative, Oil and Natural gas Company conducts seminar on six sigma implementation for suppliers. The tyre manufacturing company periodically conducts CSR audits, supplier audits, human rights audits in supplier locations. Though both the companies adopted different activities for social sustainability, these activity points to local sourcing, minority women owned enterprises sourcing, child labour, bonded labour, education, health and safety, and human rights dimensions in suppliers.

Table-2

Social sustainability practices- supplier stage

<table>
<thead>
<tr>
<th>Supply chain stages</th>
<th>Social dimensions</th>
<th>Practices by Oil and Gas manufacturing company</th>
<th>Practices by Tyre manufacturing company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppliers</td>
<td>Sourcing (Sustainable)</td>
<td>Development of local supplier (local sourcing)</td>
<td>Preferential purchasing policy to procure from local suppliers and SME’s. TCO-total cost of ownership policy to procure locally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Awarding contracts to local vendors for vehicle hiring, material handling, transportation.</td>
<td>TCO-total cost of ownership policy to procure locally.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procurement from Minority enterprises</td>
<td>Procurement from Block economic empowerment enterprises (BEE) in South Africa.</td>
</tr>
<tr>
<td></td>
<td>Child and bonded labour</td>
<td>Enforcement of factories act and prohibition of child and forced labour</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Human rights</td>
<td>Human right audits, prohibition of human rights violations</td>
<td>CSR audits, supplier audits, human rights audits</td>
</tr>
<tr>
<td></td>
<td>Health and safety</td>
<td>Suraksha certificate and GPRS system for supplier transportation</td>
<td>Partner code of conduct (PCC) ensures safety, health, ethics and human rights</td>
</tr>
<tr>
<td>Supplier engagement</td>
<td></td>
<td>Enforcement of EHS –program for supplier</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier audits and meetings</td>
<td>rights in supplier locations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sharing of best R&amp;D practices</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supplier development programs (TEAL)</td>
<td>-</td>
</tr>
<tr>
<td>Supplier education and learning</td>
<td>Vendor seminar for six sigma implementation</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

7.3 In plant Operations Stage

As part of health and safety, oil and Natural Gas Company adhere to OHSAS 18001:2007 compliance and 0.009% lost time frequency rate is achieved. The company also instituted occupational health centres (OHC’s), HSE and “CASHe” program for employee health and safety. In addition, company enforces life protection rules, safety audits and contractor health and safety management program. The tyre manufacturing company too follows OHSAS18001 for protecting employee health and safety with other extended benefits such as maternity and paternity schemes for employees, retirement pension, and life insurance, etc. The company has established behavioural based safety culture system (BBS) on the shop floor for employee safety. The company also trains and educate employees on safety, encourages “refuse to work under unsafe conditions” environment for employees. Periodic reviews and inspections are carried out on compliance mechanisms. Child and bonded labours are prohibited in both the
companies. In education, the oil and gas company has invested 0.87 million man hours for employee education, whereas the tyre manufacturing company has invested 4.41 hour/ per employee in operations. The tyre manufacturing company’s unique “apollo laureate program” in association with various universities and institutes imparting functional and specialized training for employees. The oil and gas company offers wages on par with the industry standards to its employees. In addition, it has been practicing long term wage settlement of 4-5 years for employees which led them long term sustainability. The oil and gas company complies with the United Nations universal declaration of human rights policy. On the other hand, the tyre manufacturing company encourage collective bargaining approach and 55.35 % of the employees are attached to collective bargaining agreements and freedom of association is covered under such agreements. The tyre manufacturing company actively involved in ethical policy guidelines through the document “Apollo Way” and employees are made aware of unethical practices. Gender diversity and gender non–discrimination is practiced in all the plants of tyre manufacturing company. Both the companies, practices, social dimensions such as health and safety, child and bonded labour, education, wages and human rights through various activities. However, we could not find much evidence on activities related to gender non-discrimination and employee diversity, and ethical dimensions in oil and Natural Gas Company.

Table- 3
Social sustainability practices - In plant operations stage

<table>
<thead>
<tr>
<th>Supply Chain Stage</th>
<th>Social dimension</th>
<th>oil and gas company</th>
<th>Tyre Manufacturing Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>In plant operations</td>
<td>Health &amp; Safety</td>
<td>OHSAS 18001 :2007</td>
<td>OHSAS18001, health care, maternity and paternity schemes, retirement pension and life insurance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.009% lost time, frequency rate achieved.</td>
<td>Behavioural based safety (BBS) culture system on shop floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>First party and second party audits.</td>
<td>Training and education, refuse to work under unsafe conditions, compliant mechanisms, periodic inspections.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OHC-Occupational health centres.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HSE and CASH program. And life protection rules, safety audits.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contractor health and safety management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Child and bonded labour</td>
<td>Child and bonded labour are prohibited.</td>
<td>Child and bonded labours are prohibited.</td>
</tr>
<tr>
<td></td>
<td>Education (Employee)</td>
<td>102 people were trained on six sigma green belt, and 25% of the workforce was given awareness program on six sigma.</td>
<td>Apollo laureate program in association with various institutes and universities, conduct functional and specialized trainings for employees.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Training hours for non-management and management staff were at 23.59, 48.83 respectively.</td>
<td>The average training man days / employee is 4.41 hr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.87 million man hours of training were done.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wages</td>
<td>Log term wage settlement agreements with unions for 4-5 years.</td>
<td>Wages are on par with or above the market conditions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wages are on par and competitive with market conditions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Human Rights</td>
<td>Human rights policy</td>
<td>Encourage collective bargaining approach and 55.35 % of the employees are attached to collective bargaining agreements. Zone E employees are covered with two collective bargaining agreements such as MIHO, CAO for working conditions. In case of restructuring or merger, minimum 3 months’ notice period to employees. Freedom of association is covered under, collective bargaining.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adherence to United nations universal declaration of human rights.</td>
<td>“Apollo way” is the guiding document for employees on do’s and don’t’s of ethical practices.</td>
</tr>
<tr>
<td>Ethics</td>
<td></td>
<td>-------------------------------</td>
<td>Employees are made aware of anti-corruption practices.</td>
</tr>
</tbody>
</table>
7.4 Social sustainability practices towards society

Both the companies have engaged in various activities under different names and schemes that predominantly focused on education, health, sanitation, employment creation, safety of the people, and philanthropy. Various such schemes established by oil and gas company and the Tyre manufacturing company are listed in the table-4. Though the activities looks to be a bit different in terms of approaches, but all lead them to sustainability in manufacturing.

Table-4

<table>
<thead>
<tr>
<th>Supply chain Stage</th>
<th>Social Dimension</th>
<th>Oil and Gas manufacturing company</th>
<th>Tyre Manufacturing Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Society</td>
<td>Education</td>
<td>Reliance Dhrusti, RK4 SD-Relience knowledge for sustainable development. 11 schools were developed around Jam Nagar, Surat, Vadodara, Nagothane and Nagpur facilities. To encourage retention, 2600 books were distributed to school children. 7 government schools were renovated. Protsaham scholarship for 600 children of underprivileged.</td>
<td>“Sizukuhle” creche program of pre-primary education for 50 children. “Inkanyezi” special school- vocational opportunities for self-sustenance for underprivileged. Working experience jobs for job seekers.</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>Dabej health and welfare society (DHWS) Mobile medical services to 12000 villagers. Preventive health care on vaccinations, eye camps, etc. and benefited 2000 villagers. Healthcare for differently abled and HIV</td>
<td>HIV and AIDS awareness program for all truck drivers, 21 health care centres on transport hubs were established. Alcoholism trainings were conducted in association with TTK (NGO) to spread health awareness. Employee wife’s forum for health and hygiene, nutrition and parenting.</td>
</tr>
<tr>
<td></td>
<td>Sanitation</td>
<td>300 from Gadimoga village were benefitted from sanitation program (toilets). 1200 residents were benefitted from drinking water in Nagpur.</td>
<td>Clean my transport nagar program. Sanitation and hygiene awareness program for school girls.</td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>200 men and women were benefitted through Vocational training programs.</td>
<td>Income and livelihood generation through “project U”. Skill building, entrepreneurship, placement linkages with the market.</td>
</tr>
<tr>
<td></td>
<td>Safety</td>
<td>Safety initiatives that includes awareness programs on road safety to school children, drivers, public through movie screening etc.</td>
<td>..................................................</td>
</tr>
<tr>
<td></td>
<td>Philanthropy</td>
<td>RRDT trust, DAF trust, RF trust, HNHRC foundation.</td>
<td>Donations to animal protection organizations, Handy camp, good cause, rally for handicapped children, contribution towards ALS disease.</td>
</tr>
</tbody>
</table>

7.5 Social sustainability practices- Customer stage

Customer stage involves two levels in both the companies. Oil and gas company takes at most care in protecting
human rights in distributors and dealers. The company follows “Rishta” for channel engagement and relationship. Child and bonded labours are prohibited in distributors and dealers. Whereas, In tyre manufacturing company, we could not find any evidence on human rights protection, prohibition of child and bonded labour, and dealer engagement programs. Instead, the company offers training programs for employees in channels for functional improvements and the sales and marketing workforce is hired locally. On the consumer front, education and safety were focused by both the companies through different approaches. Though, there were considerable differences in their approaches because of their domain difference, they all led to social sustainability for both the companies.

Table-5

<table>
<thead>
<tr>
<th>Supply Chain Social dimension</th>
<th>Oil and Gas Company</th>
<th>Tyre manufacturing company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributor/Channel: Human rights</td>
<td>Human rights are protected in all channels</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Child and Bonded Labours Engagement</td>
<td>Child and bonded labours were banned.</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Education</td>
<td>‘Rishta’ for distributors and dealers.</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Employment</td>
<td>--------------------------</td>
<td>Training is offered for functional improvements.</td>
</tr>
<tr>
<td>Consumers: Education</td>
<td>Appropriate product labelling, Customer satisfaction survey.</td>
<td>Content of the product describing rolling resistance, wet grip, and noise characteristics, etc. and information with regard to the safe use of products that include size, speed rating, load index, Tyre wear life indicator, and ply rating. Customer satisfaction survey is conducted.</td>
</tr>
<tr>
<td>Safety</td>
<td>Customer friendly packaging and avoidance of hazardous materials.</td>
<td>Life cycle assessment of tyre is being undertaken by European tyre manufacturers association (ETRMA)</td>
</tr>
</tbody>
</table>

8. Conclusion and Future research

Based on the research, we first identified different social sustainability practices adopted by individual companies that include Oil and Gas and Tyre manufacturing domains. Later, these activities were compared, and found that both the companies were engaged in different practices under various social dimensions such as equity, philanthropy, gender discrimination, diversity, education, child and bonded labour, health and safety, and ethics in almost all the stages of their supply chain. There were similarities and differences in many activities owing to different geographies. However, these various activities of both the companies given them sustainable advantage. The major contributions of this research are the emergence of social dimensions specific to manufacturing, supply chain in India. Based on this research, we understand that the majority of social issues in the manufacturing supply chain revolve around equity, child labour, bonded labour, education, wages, housing, philanthropy and ethics. This research helps the supply chain managers who seek to develop socially sustainable supply chains in manufacturing industries. Further, these guide sustainability experts to understand the different social sustainability approaches across all stages of the supply chain and suggest in their decision making.

Since, there were only two case studies chosen, there are still more researchable gaps which can be considered for future surveys. There is also a need to study more industry cases with the inter-industry comparative analysis, so that it can bring more insights related to various differences in sustainable practices among industries. This current research only focused on two Indian companies. However, it will be more interesting to study other global companies' sustainable practices and their challenges. Through this case analysis, and work suggests that social dimensions vary from county to county based on developing social systems and there are similarities and differences...
exist between two different manufactures.

References


