

Conceptual Framework for Building Sustainable Supply Chains in Multinational Corporations by Incorporating Corporate Social Responsibility

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Abstract—The global supply chains nowadays can no longer operate on their own. In contrast, we have to constantly make changes to our missions, functional strategies and operating objectives in order to capture the collaborative opportunities and minimize business risks. A Corporate Social Responsibility (CSR) issues selection matrix is developed to classify the related CSR issues into major categories: Collaborative opportunities, business opportunities, business risks, and infeasible opportunities to assist tackling by different approaches. The objective of this paper is to illustrate the complex relationships between the global supply chains in Multinational Corporations (MNCs) and other stakeholders in dealing with related CSR issues. The interactions between all the relevant players on the global stage have been changing the design of the supply chains. We aim to identify how we can maximize the potential benefits of effectively collaborating with all the players in design our global supply chains. The conceptual model Strategic Partnership Network Model (SPNM) is introduced to illustrate how the players in the supply chain including the customers, supply chain partners, governments, NGOs, collaborative forces and investors affect one another and how the resultant impacts alter the design of our global supply chains. By proactively engaging the related players in making changes to the current design of supply chain corresponding to related CSR issues. We are able to generate sustainable competitive advantages through close engagement. A practical tool is being developed to assist capturing the collaborative opportunities identified from the model.

Keywords—Sustainable Supply Chain, Corporate Social Responsibility, Strategic Partnership Network Model, Multinational Corporations

I. INTRODUCTION

SUSTAINABILITY is gathering attentions from all parts of the world in all sorts of organizations. Governments are drafting sustainability plans to construct greener cities, NGOs are drawing attention to the pressing social issues related to corporations, investors are looking for investment opportunities related to environmental initiatives and businesses are looking for ways to improve their reputation by embracing Corporate Social Responsibility (CSR) [1], [4]. However, it is worthwhile to note that in the past, CSR was being perceived as a source of costs, but there are increasing research evidences and business gurus suggesting that by making changes in the existing business model and maintaining collaborative strategic partnerships with all the stakeholders related to the company's

operations, they can then create sustainable competitive advantage which is difficult to be duplicated by their competitors [6]. Porter and Kramer [5] stated in their paper entitled strategy and society that, CSR became an inescapable priority for business leaders in every country and CSR can be a great source of costs in modern business model. Yet, by tackling the problem skillfully, CSR can be a source of opportunity, innovation and competitive advantage. This embarks a brand-new age of business environment for the current business leaders and they are investigating in the ways to make themselves the first to enjoy the fruits of being a sustainable company [2].

There are currently countless terminologies similar to CSR such as global corporate citizenship, corporate responsibility, sustainability and social responsibility. They are similar to one another in which they incorporate the triple bottom lines suggested by Elkington [3] who contends that contemporary corporations should deliver results in not only economic sense to generate profits for shareholders, but also contribute simultaneously to the environment quality and social equity. In this paper, we are going to explore how we can realize the benefits originated from CSR.

II. THE CONCEPTUAL MODEL

The strategic partnership network model (SPNM), as shown in Fig. 1, highlights the complexity of the modern global supply chains in multinational corporations. No matter what industries the corporation is in, or what products or services are they providing; the model acts as a general framework for demonstrating how the interactions of different players within the model can help the company to derive sustainable competitive advantages. In the past decades, transparency and accountability of a corporation was not taken as serious as today because they are being treated as business secrets which sustain the competitiveness. However, as required by many activists and advocates of the community, business has to improve the transparency of their operations and the move is critical. They transparency provided fosters the potential collaborative opportunities between different players in the model as they gained better understandings over each other and are able to offer inputs for improvement [8]. This is the essence of the model and it will be used to derive sustainable competitive advantages to the corporations [7].

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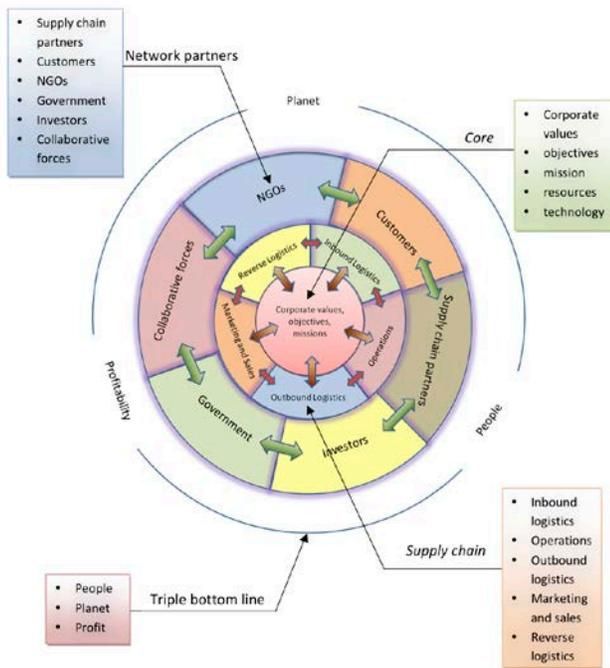


Fig. 1 The strategic partnership network model

A. The Core

The core in the middle represents the corporation itself. The major parameters such as corporate values, operating objectives, missions, resources and technology are the attributes of the corporation. This set of parameters has a close relationship with the supply chain of the corporation. Different values of the parameters decide the scale, the scope, the extension and the operating style of the supply chains.

B. Supply Chain

The supply chain contains mainly 5 critical activities. Namely inbound logistics, operations, outbound logistics, marketing and sales and reverse logistics. Inbound logistics deals with the input of the supply chain. In manufacturing sense, it can be interpreted as the sourcing activities and how they obtain the material for production. Operations deal with the transformation process. Literally it means how the materials obtained by processed, and be transformed into finished goods. It can be a combination of manufacturing and assembling activities in the sense of a factory. Outbound logistics is the process which the finished goods is being transported to other locations. It can be the transportation from the manufacturing warehouse to the retailer's warehouses or the distributor's warehouses. Marketing and sales deals with how the products/services are being delivered to the customers and the end-users. Finally, reverse logistics represents the process of dealing with the products/services after their product lifecycle. The supply chain activities are being affected by the set of parameters discussed in the previous part. For example, the design of the supply chain activities change according to different operating objectives such as minimizing cost, higher customer service level, flexibility, utilization of resources and delivery lead time.

C. Network Partners

The major partners include customers, supply chain partners, investors, governments, collaborative forces and NGOs. These partners contribute to the external environment facing the supply chains. In the past, one may only find customers, suppliers and governments as their source of interventions and uncertainties. The situation has changed along with the emergence of globalization. Customers always provide important input to the operating model of the company. Companies had been devoting great sum of resources to gather customers' opinions through questionnaire, focus group and other market research tools. By engaging the customers, businesses can derive better profitability and cost reduction since they can understand what the customers really need or what is not important to them. Supplier chain partners literally are the immediate partners that the company is operating with. It includes the upstream suppliers and also the distributors or other parties responsible to deliver the product/service to the end customers.

We have seen how companies are deriving cost reductions through collaborations with suppliers in programmes such as Just-in-time (JIT) and vendor managed inventory (VMI). Collaborations with retailers are also increasing due to the mutual benefits derived from the initiatives. For example, P&G have their own customer business development division to improve their relationships with the retailers in order to maximize sales. Investors are the turbine of economic growth, they provide financial capability for firms to expand their operation and if they choose not to invest, this can generate a huge impact in the competitiveness of the firms. Investors should also bear the responsibility of requesting sustainable operation from companies. This is never a single-sided request for a zero-sum game; sustainable business models can increase the competitiveness of the company and in turn generate a long term return to the investors. Governments are definitely important to the companies since they are the policy makers. Companies can gain from positive government interventions such as tax benefits and infrastructure development. At the same time, they can also be undermined by government interventions such as increased corporate tax and tightening monetary policies. Collaborative forces are the organizations which provide business solutions to the leading corporation in the world to enhance their CSR efforts. They are crucial because they provide practical, proved means of implementation plans to corporations. They also act as a trusted intermediary between business and civil society because they understand the needs of the society through close engagements with key stakeholders and convert the needs into business practical ways. NGOs are also important to companies since they are close to the general public.

We have seen how company reputation being severely affected after certain suspected business misconduct being disclosed by NGOs in the past. However, NGO can actually provide some valuable inputs to the operations of the companies because they possess local market knowledge and their close link with general public. We have seen increasing amount of corporate-NGO partnerships nowadays. For example, McDonald's are constantly organizing children's day with

UNICEF in Hong Kong. We are neither in the age of internal process improvement nor are business-to-business partnerships as we can see that these strategies are not unique and other competitors picking up. We are in the age of collaboration. Companies can exploit business opportunities and improving the performances of the triple bottom lines by form strategic network relationships with all the key players.

D. Triple Bottom Line

This model outlines the relationships within the network. The overall objective of the model is to develop a strategic partnership network to pursue excellent performances according to the standard of triple bottom line. This requires close collaborations and information exchange among the parties.

The model encompasses the core, the supply chain, the network partners and the triple bottom line. The arrows connecting different blocks in the model represent the dynamic of the model. The core, which represents the firm's operating philosophy and core values; determine the design of the firm's supply chain. The supply chains operating in different parts of the world affect network partners and vice versa. The model contends that the company should design their supply chain by engaging with external network partners in a strategic context, which will operate under the triple bottom line constraint.

III. THE IMPLICATIONS OF SPNM

By forming strategic partnerships with the major partners, aligning the benefits for both sides, collaboration works better for both parties rather than individually.

The availability, the commitment to sustainability of the suppliers affects the decisions on ethical purchasing. The NGOs provide local knowledge over available suppliers because a lot of them are working on certifying suppliers with reasonable demonstrated consistence in performance according to different certification scheme. On the other hand, NGO can also severely hurts a company's reputation and increase its operating expenses by disclosing malpractice in their business model and request for changes which usually add up to costs. Customers, who are the end users of the products, are critical to the participation in reverse logistics activities. Whether they are eager to return the recyclable products to the collection spots or they just dump them up to their conveniences influence the manufacturer's commitments to reverse logistics. Some may be discouraged by the lack of participation by the customers and end up terminating the programme. Governments are actually involved in many of the above decisions but they are being regarded as a source of negative interventions in the past. For example, the enactment of environment-related laws such disposal and treatment of industrial wastage, the adopting of minimum wages, the upper limit of working hours and employee benefits, the insurance policies, the tax related items. Although we treated government as a source of negative interventions, we have seen more alliance arrangements in nowadays. Over 20% of the joint venture done in China between 1999 and 2003 are government involved alliances. Governments can actually be a great source of capital acting as a

supporting role in expanding the business for the good of both parties. The government can provide financial incentives such as tax rebate, operation incentives such as provision of land resources and infrastructural development which improves the connection to other destinations which will be likely to reduce transportation cost. The government sometimes also provides subsidies to companies installing environmental friendly production equipments. By effectively developing strategic alliances with government, one can enjoy many exclusive benefits. Investors and banks are critical to company's supply chain as well. The financing provided by banks can enable companies to expand their operating across borders, the confidences shown among the investors over the company's future profitability also attract capital to invest in the company and improve the reputation of the company within the industry. Collaborative forces are the most neutral group within the network; they are mostly not-for-profit organizations aiming to provide business advices to improve sustainable practices of the company. They have good market knowledge due to experiences in dealing with issues in their specialty in different companies in different industries. They are also positioned at a more neutral point between the business and the society which enable better stakeholder engagement with the community and other parties which may contain conflict of interests with the companies.

All the players in the network have its critical role to play and the collaborative opportunities are enormous. One also has to notice that the all the players of the network model are driving change in the business. There are also interactions between the players themselves apart from the corporations. The NGOs are engaging the customers themselves, providing with information about the business practices of the companies. The customers are also requesting more actions than ever from the government to better improve the business conducts of the industry. The governments are, at the same time, engaging the investors, customers and the NGOs in their policy making procedures. Not only the corporations itself, their supply chain partners are also being targeted for better accountability and transparency as required by lots of NGOs, companies are not only improving their own operating style, they also have to monitor their supply chain partners' performances and business conducts. This was not seen in the past decades. And all these changes are driven the emerging force of globalization and information technology so that virtually every single individual is more accessible to the information and at the same time corporations are actively publishing their efforts and endeavors in making progress in CSR issues. To build a globally competitive supply chain is more complex than ever, the players involved are enormous and it requires a systematic approach to build up a strategic partnership network with all the players involved.

Since the management of this very complex network requires lots of dedicated resources and commitments, company can realize the opportunity in this area to generate sustainable competitive advantage as this is hardly duplicable by its competitors.

IV. IMPERIAL TOOL

In this section, we will cover the CSR implementation model providing a general framework and step-by-step approach to assist the implementation of CSR initiatives in global supply chains. Now, a model will be developed to help identify the interactions of participating players existing in the global supply chains, the related supply chain activities and the decisions being affected, the importance of the decisions, the potential

improvement opportunities and the recommendations to improvements in the following implementation model.

We aim to align the incentives of the players in the SPNM in order to construct a long term and sustainable partnership relationship with other network players. Table I shows the model which outlines the descriptions and objectives of the 5 key steps involved in the implementation process.

TABLE I
DESCRIPTIONS AND OBJECTIVES OF THE 5 STEPS IMPLEMENTATION MODEL

Descriptions		Objectives
1. Business model analysis	This step involves the review of existing business model to relate supply chain activities to CSR issues.	<ul style="list-style-type: none"> Identify current operating strategies Identify existing external partners Identify CSR issues related to supply chain activities and the supporting functions
2. Selecting CSR issues to address	This step selects the most pressing issues to company according to the strategic importance and the impacts of the issues.	<ul style="list-style-type: none"> Select CSR issues to address which will most justify company's investment and other partners' interests Identify improvement areas by closely engage related partners Identify the potential impacts can be made if the issues are not addressed probably
3. Capturing opportunities to create competitive advantage	This step involves capturing the opportunities existing and by continual engagement with external partners to come up with action plan.	<ul style="list-style-type: none"> Propose recommendations to changes in current business model after close collaborations and discussions with external partners in order to align mutual benefits of the new approaches
4. Monitoring progress	In order to closely monitor the results of the changes made, we have to measure the results based on our key performance indicators.	<ul style="list-style-type: none"> Monitor the progress of the CSR initiatives Quantify the results for comparison Review the approaches to change
5. Communicating results	This step involves effectively communicating the approaches that we have taken, the process and the results of the CSR implementation project to the public including the government, customers, suppliers, investors, NGOs and the community.	<ul style="list-style-type: none"> Raise customer awareness Raise attractiveness to investors Improve government confidence Improve suppliers' quality and strategic partnerships Improve corporate reputations

Step 1: Business model analysis

Business model analysis is the first step of CSR implementation model. This is because we have to know our own business well before we can seek for CSR issues to address along the supply chains. At this stage, we mainly do the analysis in house by internal staff. We have to set up a project team with staff from diverse backgrounds and corporate ranks. The team's commitment to the CSR implementation is critical to the results.

At this stage, we have to clearly understand how currently we are operating our supply chain. Now, we divide the activities within the company into 2 groups, namely the supply chain activities and the generic activities. The major supply chain activities encompass sourcing, transportation, storage, distribution, marketing and sales and reverse logistics modules. There are also generic activities such as labor relations, energy consumptions, training, product responsibility and technology development. We have to review the approach that we have taken on these activities. The findings of the above tasks are summarised into Table II.

TABLE II
THE TOOL BEING USED FOR STEP 1 IN CSR IMPLEMENTATION MODEL

	Functions	Functional strategy	Activities	Objectives	CSR issues	Who is involved? Who should be involved?					
						CUS	SUP	GOV	NGO	COF	INV
Company's mission is to help people live better more than saving them money. It's about running our global operations in a way that helps people, helps the environment and builds our business.	Inbound logistics	Obtain stable high quality supply from suppliers with sustainable practices at cheap costs	Supplier selections	Source from suppliers with highest quality at lowest costs	Responsible sourcing, fair trade, Transportation pollutions	X	X		X		
	Operations										
	Outbound logistics										
	Marketing and sales										
	Reverse logistics										
	Human resources										
	Resources consumption										
	Community investment										
	Employment practices										
	R&D										

* CUS - Customer, SUP - Supplier, GOV - Government, NGO - Non-Governmental Organizations, COF - Collaborative forces, INV - Investors

Step 2: Selecting CSR issues to address

After doing the preliminary internal analysis, we are able to gain a better understanding of the business model that we are adopting. At this stage, we may have a lot of potential CSR issues to address. For example, we can redesign energy

consumption guidelines; we can redesign the employee feedback channels, we can also construct a supplier strategic partnership programme for building more sustainable practices in the sourcing processes and so on. However, we have to carefully map the issues into the following 4 categories, prioritize them and select the CSR issues to address. Here, we introduce a simple but useful matrix for selections in the following Fig. 2. The 2 axis are shareholder's value and stakeholder's value.

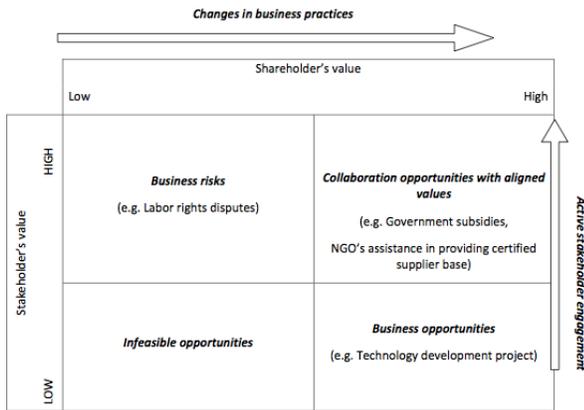


Fig. 2 The CSR issues selection matrix

Collaborations with aligned values

The CSR issues with high shareholder values and high stakeholder values fall into this category. Since both parties want to realize the opportunities in these kinds of issues, this automatically turns into a collaboration opportunity with mutual benefits. For example, when government attempts to attract foreign investments and technology, they offer land resources or other tax subsidies to attract investors. At the same time, the MNCs looking for opportunities to explore new markets will form strategic partnerships with the governments to realize the opportunities.

Business opportunities

The CSR issues with high shareholder values and low stakeholder values fall into this category. Although the CSR issues seem only beneficial to the shareholders of the company itself, with active engagement with the related stakeholders, we can actually build this into a collaboration opportunities. For example, let's the company want to reduce the use of plastic bottle in the health care product lines. They came up with a business idea of introducing a refill pack for their health care products, but their customers have to refill them at home by themselves. Yet, the company is able to offer a more competitive price for the products with the lowered expenditure on packaging materials. This becomes a realized business opportunities for both parties by actively engaging the opinion of the customers.

Business risks

The CSR issues with low shareholder values and high stakeholder values fall into this category. The CSR issues seem of little importance to the company. But the CSR issues in this category are always the focus of the other stakeholders. This

kind of issues will usually turn into global disputes over the NGOs and the companies as a result. For example, NGOs are always actively working on unveiling poor working conditions and infringed labor rights in sweatshops. For companies, they want to gain advantage over the poor labor so that they tend to let the workers work for long hours in unsafe environment. There are always reports published by NGOs uncovering the infringement of labor rights which in turn damage the reputations of the company and force the companies to address the issues. This can also be turned into an opportunity by making changes to the current business model. By further enforcing labor regulations, treating the employee better can let the company to retain the loyalty of the employees and improve the productivity under the justifications of CSR. Wal-Mart has always been long criticized of this and they are improving their employee regulations. Now they use the newly developed programme as a demonstration of their commitments to CSR which improve their reputation. The issues in this category were prevailing in the past in the form of corporate philanthropy.

Infeasible opportunities

The CSR issues with low shareholder values and low stakeholder values fall into this category. In this category, the opportunity does not justify the investment of the shareholders and the stakeholders. So, the issues fallen into this category should be placed least concern.

Step 3: Capturing opportunities to create competitive advantage

After mapping different CSR issues related to the company into the above 4 categories, prioritization has to be done in order to target the most pressing issues with limited resources available in corporate. The table that we have been using in step 1 (refer to Table II) can be expanded for this step (refer to Table III). The priority rating is assigned according to the categories that the issues fell into according; the rating is 9 for collaboration opportunities, 5 for both business risks and business opportunities and 1 for infeasible opportunities. The potential effect is determined by group consensus of scale ranging from 0 to 9. The final score is calculated by multiplying the two rating and the issue with higher score deserves higher attention.

TABLE III
THE TOOL FOR ADOPTING RECOMMENDATIONS FOR CSR ISSUES

	Functions	CSR issues	Who is involved? Who should be involved?					Priority rating(R)	Potential effect(E)	Score (R*E)	Recommendations
			CUS	SUP	GOV	NGO	COF				
Company's mission is to help people live better more than saving them money. It's about running our global operations in a way that helps people, helps the environment and builds our business.	Supply Chain Activities	Inbound logistics									Embrace fair trade agreement. Enhance corporate communication and review operational objectives' alignment with CSR philosophy
		Responsible Sourcing	X	X		X		9	7	63	
		Operations									
		Outbound logistics									
		Marketing and sales									
		Reverse logistics									
		Labor relations									
		Environment									
		Society									
		Human rights									
R&D											

* CUS - Customer, SUP - Supplier, GOV - Government, NGO - Non-Governmental Organizations, COF - Collaborative forces, INV - Investors
 * Category I - Collaboration opportunities, Category II - Business opportunities, Category III - Business risks, Category IV, Infeasible opportunities
 * Priority rating: Category I - 9, Category II, III - 5, Category IV - 1

Regarding recommendations, we have to work closely with all the strategic partners for the related CSR issues to be taken. It is suggested that there should be representatives from all the related parties to come up with the recommendations to the issues. Moreover, the stakeholders should also participate in reviewing the mission, functional strategies and operational objectives of the company in order to discover further collaborative opportunities.

Step 4: Monitoring progress

In order to effectively monitor the progress of the CSR implementation, we have to define measurable indicators for the CSR issues selected. However, due to the wide varieties of CSR issues, we cannot determine a fixed set of key performance indicators. On the other hand, we will determine performance indicators according to different activities and industry.

For example, we can use the number of certified suppliers in business relationship to measure the progress of responsible sourcing. Some more familiar indicators can be the volume of CO₂ emitted during production process, the percentage of diverse workforce, the number of women or minority in senior management level.

After determining the individual performance indicator for individual CSR issues, we can monitor the progress on a periodic basis and continue to make changes to proposed recommendations.

Step 5: Communicating results

Although some companies putting in a lot of effort in CSR issues, they may not necessarily be regarded as an ethical enterprise by the other stakeholders. The key issue is to communicate the implementation results effectively to the stakeholders so as to at least retain the license to operate, and to improve the corporate communication in further extend.

The CSR communication process should cover the shareholders, internal stakeholders and external stakeholders. The shareholders should be provided clear information about the return of the CSR initiatives. The internal stakeholders represent the employees within the company and the external stakeholders should be demonstrated with the concerns and dedications illustrated by the company, the incorporation of CSR initiatives in the new business model, the organizational support to the CSR issues and the results of the CSR implementation plans.

The CSR communication process should not be perceived as a marketing tool to promote the company's commitment. It should draw the attentions of all the information of all the recipients and welcome all the feedbacks from them. The CSR communication plan should also be perceived as a top management issue in order to show the company's dedication to the CSR implementation. The interactions should be made within all the recipients and among the recipients.

V. CONCLUSIONS

In the modern business world, companies are finding themselves more difficult to differentiate themselves from their competitors by price and quality. More efficient production

machines, better utilized transportation network, better marketing campaign or better after sales services are provided to the customers, but the companies are finding themselves competing in the blood ocean over the above parameters and they start to find the saturation stage. CSR is the new way to distinguish a company.

Over the past few years, CSR is getting more attention on the corporate agenda. Most of the MNCs are publishing their sustainability reports annually to report to their shareholders and stakeholders of their incorporation of sustainability philosophy. It is with no doubt that CSR is getting more important. But how do we realize the return of the opportunities provided by CSR?

In the past, companies tend to optimize their operations to reduce the production of by-product or externalities. For example, they try to utilize their vehicles space, utilize their production capabilities, minimize the disposal of wastages, use better equipment to reduce environmental impacts and so on. However, this is not enough because what they are doing may not be what the other stakeholders want. Then, companies try to involve their customers, suppliers in their operations such as marketing campaign, order replenishment process, sales data mining, forecasting of sales and so on. Yet, companies do not only being constrained by suppliers and customers. There are also other players in the global supply chains such as NGOs, governments, collaborative forces and investors. This introduces a new operating philosophy to the modern supply chain – collaboration. Collaboration brings diverse opinions and more resources to realize the opportunities that were not able to achieve without the engagement with all the other external partners. We have demonstrated how the external players can affect the design of the supply chain. The use of diverse workforce, recyclable materials, green manufacturing methods, environmental friendly engines, reverse logistics mechanisms, consumer awareness marketing campaigns are all results of the emerging business needs from the opinions gathered from all the players. In order to successfully build up strategic partnership with all the players to create sustainable competitive advantage for the companies, they have to address the CSR issues with the company in a systematic approach.

The implementation model consists of 5 key steps namely business model analysis, selection of CSR issues, capturing opportunities to create competitive advantage, monitoring progress and communicating results. The first step identifies the CSR issues existing in the company activities which include supply chain activities and generic activities for a typical MNC. They then have to engage closely with their stakeholders to map the issues on the selection matrix in order to align the mutual interests of the company and the external partners. They have to continue to engage the stakeholders in order to realize the opportunities by providing feasible recommendations. Monitoring efforts and communication efforts are also important to further refine the missions, corporate values and the action plans in order to accommodate the ever changing business needs. By effectively managing CSR in the new business model, we can create sustainable competitive advantages and at the same time making the world a better place for all.

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