



A Model for Sustainable Value Creation in Supply Chain

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Abstract. In order to survive, every company needs to achieve sustainable profitability, which is impossible unless there is sustainable value creation. Regarding the fact that sustainability is closely related with concepts of supply chain management, the present paper intends to propose through a conceptual theorization approach a new comprehensive model drawing on concepts of value creation and sustainability from the perspective of supply chain, specifying the dimensions contributing to sustainable profitability. In fact, this model has a tree-like structure depicting the tree of sustainable value creation in supply chain, the outcome of which can be seen on the uppermost branch labeled as sustainable profitability.

Keywords: Value Creation, Sustainability, Supply Chain Management, A Model for Sustainable Value Creation in Supply Chain

1. INTRODUCTION

Nowadays, companies cannot prosper and win customers over merely through operational or financial excellence. In fact, competitive advantage today requires something extraordinary. Customers and individuals in the current society expect organizations and companies to be responsible for their activities taking into account the future generations. This led to emergence of a concept known as sustainability in the business-related literature, the significance of which can be understood from the numerous journals and articles published so far in this regard. As sustainability became widespread in all business aspects, the number of companies embracing the idea has been growing on a daily basis, to the extent that companies are currently, in response to domestic and foreign stakeholder, giving out separate annual reports on organizational performance concerning sustainable development. According to the statistics provided by GRI in 2011, about 95% of the 250 world largest companies made an effort to prepare such report, in many of which particular focus has been on supply chain management, since it complementarily overlaps in most cases with concepts of sustainable development. As a matter of fact, no company will be able to implement sustainability projects without focusing on supply chain management.

2. METHODOLOGY

In this study, a conceptual theorization approach was adopted, i.e. the mainstream concepts concerning value creation, sustainability and supply chain management were first reviewed and then expanded together so as to derive a new comprehensive model entailing all the concepts revolving around sustainable value creation in supply chain.

3. LİTERATUREREVIEW

Every company needs profitability to survive. In other words, profitability is the most important factor motivating a company to actively keep on operating. In order to gain profitability, a company is bound to create value for markets and customers. Since the

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bargaining power today has been transferred to the market, customers and consumers, corporate managers are no longer able to unilaterally define value, but they should rather make great effort to listen to customers voice, recognize their definition of value, according to which respond to customer needs and wishes, and eventually provide them with satisfaction.

The value created by a company is transferred to the customers through delivering products or services. Moreover, production of goods or provision of services requires financial resources, human resources, equipment, raw material, etc. These requirements in isolation, however, are not sufficient for producing goods or providing services. Instead, every company needs to apply certain processes on resources in order to finally convert them into products or services. The noteworthy point is that companies are likely to employ the same resources and processes. Nevertheless, the distinguishing feature in their products or services is known as capability. Regarding the facts mentioned earlier, resources, processes and capabilities can be deemed as prerequisites to production of goods and provision of services, which is generally speaking the building block of corporate value creation [1].

If we define value as a function of benefit and cost [2], customer satisfaction will be tantamount to benefit. The more satisfied customers are with received products and services, the higher goes the benefit, which is positively correlated with value. Furthermore, reduced cost for customers leads to higher value. Cost is rather in connection with productivity.

In practice, value creation is a difficult, complicated task to be accomplished efficiently and sustainably by any company trying to survive. This requires several activities, performances and partnerships representing themselves as supply chain. For achieving success and effective, sustainable value creation beyond internal resources, process and capabilities, companies need to construct a sustainably value-creating supply chain in collaboration with their business partners.

In many aspects, supply chain resembles value chain, except that the latter tends to develop in a strategic realm while the former covers a more operational area. Involved in the primary stage of supply chain are suppliers who are in turn divided into various rungs. The first-tier suppliers directly provide the manufacturer with input material, whereas the second-tier suppliers support the first-tier supplier with what they need. Accordingly, the third-tier suppliers support the second-tier. Standing after the suppliers is the manufacturer turning the received inputs through certain processes into final product or service. Before being introduced to the market or delivered to customers, the final product or service is then given to the third stage of the supply chain, where distributed are supposed to make the products available to the last stage of supply chain, i.e. customers who might in turn be consisted of various tiers. In fact, customers receiving goods or services directly from distributors are the first-tier customers, whereas customers purchasing the goods and services from the first-tier customers are the second-tier customers. Accordingly, customers purchasing goods and services from the second-tier customers are the third-tier. In such categorization, a first-tier customer can be the wholesaler, the second-tier is retailer and the third-tier is end customer. Undoubtedly, it is an extremely complicated task to build coordination and integration among the entire stages of supply chain aimed at maximum value creation. In case there is an obstacle along the chain, no sustainably effective supply chain will be guaranteed.

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As it was mentioned earlier, value is a function of benefit and cost. In the event that supply chain can make product or service available to customers at desirable price and quality as well as at the right time and place, there will be sense of satisfaction induced in customers, thus building on the product or service benefits, which is known as chain response capability. Such responsiveness is in direct connection with benefit whereas cost is correlated with efficiency. When chain manages to perform assigned tasks and activities efficiently, supply chain will be able to cut down on costs. It can therefore be stated that responsiveness and efficiency are two constituting elements of value.

The value of responsiveness rather concerns the interaction between customers and the supply chain, whereas the value of efficiency is directly related to processes taking place inside the supply chain mechanism. In the end, all the supply chain members including suppliers, manufacturers and distributors should make further collective effort to maximize value through strengthened responsiveness and efficiency, which requires coordination and integration among all the members.

Sustainable value creation requires sustainable coordination among the supply chain members. Building such coordination, however, is not an easy task, because there are always obstacles along the way. For instance, there is no systematic and fair measurement system, in the absence of which coordination might lead to increased profitability, but the role played by each member to divide the profits will be challenged. This issue occasionally leads a partner with higher bargaining power in supply chain to gain the entire profits from such coordination. In that situation, coordination will not be sustainable, thus supply chain value creation cannot be sustainable and continue for a long time.

For attaining sustainable coordination, there are two requirements to be met. Firstly, the sum of profits gained from coordination of chain partners should be higher than what it was prior to coordination. This ensures that total profits will increase through coordination of all the members, even though it alone will not be sufficient for achieving sustainability. Thus, each member is supposed to make sure that his profit will rise through coordination as well.

It also points to economic sustainability of supply chain and its members. Moreover, the Triple Bottom Line (TBL) theory, proposed by John Elkington back in 1994, covers the sustainability of economy, society and environment [3]. In the economic area, it should be ensured that consumed economic resources are not larger than the economic value obtained from products and services delivered to the market. Economic productivity is a major factor in judging over corporate endeavor for attaining economic sustainability. While performing its economic activity, every company needs to focus as well on social sustainability through adhering to ethical standards, which is often associated with the mainstream culture in a society. Justice, fairness, morality and commitment are the criteria of social sustainability. As for the environmental area, every company needs to committedly preserve natural ecosystems. For instance, companies are supposed to prevent CO₂ and other greenhouse gas emission; otherwise, the global climatic balance would be disrupted. Furthermore, companies are expected not to misuse trees, water, mineral material, etc., since reduction in such nonrenewable sources might endanger future generations in terms of living standards.

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These three areas are so intertwined to remind that a deeper focus on the impact of each activity can help achieve a truly sustainable business. Carter & Rogers (2008) believe that sustainability derives from convergence of the three areas [4]. Consequently, every company seeking sustainability cannot be after environmental, social and economic projects in isolation. Hence, supply chain managers are strongly recommended that environmental, social and economic goals be linked together under a broader strategy. By adopting the Triple Bottom line approach in supply chain management, business survival and continuity can be ensured in the long-run and thus contribute to social welfare.

Now if sustainability is viewed from the perspective of supply chain or value chain, it can be called sustainable supply chain coordination. Mentzer et al. (2002) defined Supply Chain Management (SCM) as, “the systematic, strategic coordination of the traditional business functions and tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long term performance of the individual companies and the supply chain as a whole.” [5]. Similarly, Lambert et al. (2006) defined SCM as, “the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders.” [6]. Based on the two definitions above and literature overview on sustainability, Carter & Rogers (2008) defined SCM as, “the strategic, transparent integration and achievement of an organization’s social, environmental, and economic goals in the systematic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual company and its supply chains.”

Furthermore, Melnyk, Davis, Spekman&Sandor (2010) pointed out that supply chain should be designed and administered in a way to be able to provide customers with their desirable outputs. Sustainable behavior in this chain implies that output is more valuable than input [7]. Such value will be created due to the chain responsiveness and efficiency capability. In this respect, Kim Bowen (2012) suggested a framework entitled as value system sustainability [8].

According to this theory, there are three key factors contributing to sustainable value creation through supply chain, including 1) sustainability areas covering economic, social and environmental obligations of all supply chain members, 2) sustainability stakeholders cover the entire internal and external supply chain stakeholders, and 3) sustainability level determining the sustainability status quo of supply chain and its members, contributing to plans aimed at execution of sustainability projects.

In the early days, most efforts for sustainability were made by national and local governments who strived through laws and regulations to oblige businesses to enforce sustainability ideals. Back then, the majority of businesses were either passive or sluggish in recognizing such principles. Later on, as awareness was raised about the significance of sustainability demanded by internal and external stakeholders, companies increasingly embraced the idea. Consequently, concentration on sustainability might originate from demands made by internal stakeholders such as managers, shareholders or employees or alternatively by external stakeholders such as suppliers, distributors, customers, communities, governments and the private-sector organizations. It clearly indicates the key role played by stakeholders in building a sustainable chain.

An additional requirement for enforcement of sustainability ideals is to determine sustainability level. Since the concept of sustainability turned into an inevitably essential issue, the need for sustainability assessment urged numerous scholars to propose a special system for assessing the organizational sustainability level. Handfield et al. (1997) suggested there are six levels for fighting environmental issues. Moreover, Hall & Wordenburg (2003) introduced seven levels for corporate performance assessment in this regard. This is absolutely important because any attempt to plan and enforce sustainability development programs is impractical unless the organizational current status is well recognized.

Sustainability stakeholder and sustainability level along with three sustainability areas entailing Triple Bottom Line constitute the framework of value system sustainability in supply chain.

4. CONCLUSION AND SUGGESTION

In the previous section, value was introduced as a function of benefit and cost. It was also discussed that value from the perspective of supply chain management comprises two elements: responsiveness and efficiency. Thus, resources, processes and capabilities are introduced as the building block of value creation (Figure 1).



Figure 1. Building Block of Value Creation.

In order to realize a sustainable value creation, Kim Bowen (2008) proposed a triangular system entitled as value system sustainability, according to which, sustainability stakeholders and sustainability level constitute the two base corners, while sustainability areas lie on the apex (Figure 2).

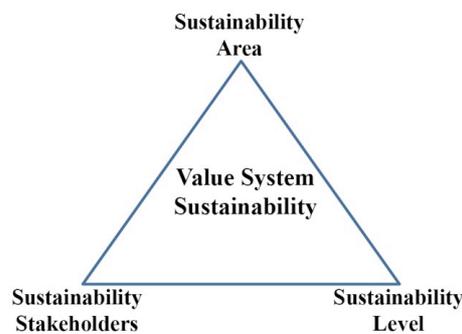


Figure 2. Value System Sustainability.

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The demanding voice of stakeholders directs supply chain management toward sustainability areas, where sustainability level facilitates, through determining the current status, the process of planning so as to achieve sustainability areas. According to Triple Bottom Line approach first proposed by Elkington (1994), sustainability covers three performance areas: environment, society and economy (Figure 3).

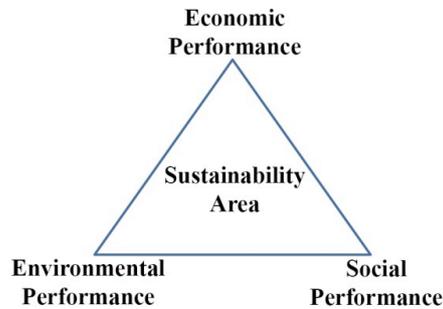


Figure 3. Sustainability Area.

Carter & Rogers (2008) believe that environmental and social performances should be aligned with economic objectives, because supply chain would not survive without positive economic performance. As it was discussed earlier how sustainable supply chain needs to be coordinated, it is expected to be sustainably profitable as well for positive economic performance. In fact, profitability is realized when the chain is benefited just as are the individual participants (Figure 4).



Figure 4. Economic performance.

Having taken into account all these facts for the supply chain design, SCM will provide a sustainably value-creating chain and subsequently, sustainable profitability. Accordingly, this paper suggests an outline for sustainable value creation in supply chain, the structure of which apparently explains why it can be called the tree of sustainable value creation in supply chain (Figure 5).

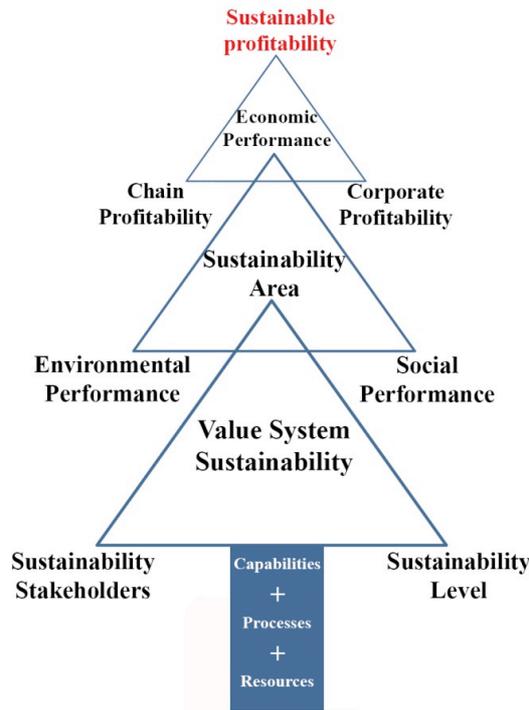


Figure 5. The Tree of Sustainable Value Creation in Supply Chain.

According to this model, supply chain resources, processes and capabilities as the value creation infrastructure constitutes the base. It is crucial to focus on sustainability stakeholders, sustainability level and sustainability areas so as to actualize a sustainable value creation. In fact, listening to stakeholder voice redirects the supply chain management toward sustainability areas, while a determined sustainability level paves the way for enforcement of sustainability programs suitable for each area, which can be social, environmental or economic. Considering the chain’s economic objectives, the two social and environmental areas need to be aligned with economic performance. In fact, a positive economic performance is fulfilled through sustainable profitability, which is an outcome of chain’s overall profitability as well as individual member profitability. It is therefore revealed that economic performance involves three components: chain profitability, corporate profitability and sustainability of chain and corporate profitability.

The above-mentioned project not only covers the various dimensions contributing to sustainable supply chain, but also illustrates its relationship with long-term economic success, i.e. sustainable profitability. Finally, this model entails the contributing factors to sustainable value creation and in turn, how supply chain achieves sustainable profitability.

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