

TOWARDS A THIRD PARTY LOGISTICS (3PL) BASED SUSTAINABLE SUPPLIER RELATIONSHIP MANAGEMENT FRAMEWORK

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ABSTRACT

The purpose of this study is to establish a systematic framework of Sustainable Relationship Management with 3PL Providers (SLRM) in general by studying Supply Chain (SC) sustainability that inspires useful sustainable relations with 3PL service providers and supports attainment of ultimate SC goal. It also considers the practices required to be applied in this scenario in order for value optimization. On the basis of literature, this paper develops and presents a sustainable framework after thoroughly examining existing frameworks. Developed framework has been augmented by investigating the existing need to develop sustainable relations with 3PL providers. SLRM is not only dependent on maintaining long-term relations with goods/service providers in form of partnership, instead it requires a partnership enriched with social, environment and economic aspects along with relationship sustainability measures which act as a driver to create value optimization in terms of gaining greater customer delightedness and higher level of sustainable profitability. The focus must be on sustainable improvements rather than on continuous improvements which might not guarantee the long term and consistent growth. More synchronized efforts are required in this scenario from the company and its logistics service providers. This study will facilitate organizations in optimal selection, effective development and evaluation of their 3PL providers while considering the SLRM characteristics to avail productive gains of value enrichment.

Keywords - Sustainable Supply Chain Management (SSCM), Supplier Relationship Management (SRM), Sustainable Supplier Relationship Management (SSRM), Third Party Logistics Provider (3PL).

1) INTRODUCTION

The concept of sustainable development is gaining increased popularity in social sciences and is considered to be a key of success in any field, as it allows to think beyond materialistic gains (Holden, Linnerud and Banister, 2017; Sharif, Alshawi, Kamal, Eldabi and Mazhar, 2014). It has provoked scholars and practitioners to view the areas of business management and Supply Chain Management (SCM) from environmental and social perspective (Dubey et al., 2017; Marshall, McCarthy, Heavey and McGrath, 2015; Xu and Gursoy, 2015; Mitra, 2014; Chaabane, Ramudhin and Paquet, 2011). It develops foundation to link all business operations and functions with the objective of sustainable development and growth. Chaabane et al. (2011) state that enterprises are being compelled to restructure their SC due to increasing social awareness. It demands to incorporate the economic, ecological and social aspects into their corporate objectives and to align their SC strategies with sustainability goals. Zhang, Tse, Doherty, Li and Akhtar (2018) state that organizations are required to develop the culture of sustainability to outperform their competitors. Social alertness also exerts stress on organizations to incorporate sustainability concerns in all managerial undertakings (Lin, Tseng and Pai, 2018).

Multiple functions intertwine to constitute SCM that actually manages different flows between raw material marketplace and end consumer (Mentzer et al., 2001). Among all functions, purchasing is considered as strategically importance, as it is a major source of competitive advantage (Kaufmann, 2002). Purchasing function of SC is now transforming from traditional adversarial approach to collaborative approach that allows to develop integrated operations rather than controlling suppliers that, in turn, optimize overall value (Bernhardsson and Lindgren, 2018; Homburg and Kuester, 2001). Vargas, Mantilla and de Sousa Jabbour (2018) conceptualize strategic purchasing as “a planning process of purchasing activities in order to find opportunities consistent with the focal firm’s capabilities to achieve its long-term goals”. Purchasing function of SC is now transforming from traditional adversarial approach to collaborative approach that allows developing integrated operations rather than controlling suppliers (Homburg and Kuester, 2001). A focal firm is dependent upon its supply sources to ensure sustainable manufacturing practices and operations leading towards production and delivery of green products and services to end consumer that requires input from other SC partners who are required to streamline their operations and activities

using sustainable approach (Walker, Miemczyk, Johnsen and Spencer, 2012). Supplier Relationships are optimally managed by creating sustainable value for supplier and buyer. It requires transforming Supplier Relationship Management processes in order to perform operations efficiently and effectively that result in transparency and sustainability in terms of strategic suppliers' performance management by requiring them to consider social and environmental impacts of their actions (Deloitte, 2015). Firms can motivate their suppliers to engage in sustainable practices only by developing long-term sustainable relationship with them in order to create interdependence and value maximization leading towards win-win approach.

Purchasing is not limited to goods only, but various types of services are also outsourced to service providers where logistics services play vital role in achieving primary goal of SC that is on-time delivery (Zimmer, 2002). Acquisition of logistical services enables organizations to concentrate on their key competencies (Vasiliauskas and Jakubauskas, 2007). In order to avail efficient and effective services of 3PL there is a need of higher level of sustainability in relationship that allows firms to leverage upon the capabilities of their 3PLs so that it is essential to build sustainable relations of high quality with them considering the dependence level, as it facilitates adoption of environmental friendly practices such as shipment consolidation to promote cost saving, energy saving and fuel efficiency (Kilby, 2009). This study aims to develop a SSRM framework with a focus on 3PL in the light of implementation of sustainability in terms of SCM and that of prevailing SRM strategies and frameworks.

2) LITERATURE REVIEW

2.1) Sustainable Supply Chain Management

According to Srivastava (2007) Supply Chain Sustainability (SCS) is a corporate concern, and it is directly connected to two key issues that include cost of waste and environmental hazards. These factors have tendency to affect firms' SC performance management. It indicates the notion that SCM choices should be restricted to solutions that are environmentally feasible so that enduring competitive advantage can be attained and sustainable economic performance can be accomplished (Mitra, 2014). It will also allow achieving sustainable profitability without putting detrimental impacts on natural resources and ecological means

(Zhang et al., 2018). One definition of supply chain sustainability is “Supply chain sustainability is a holistic perspective of supply chain processes and technologies that go beyond the focus of delivery, inventory and traditional views of cost. This emerging philosophy is based on the principle that socially responsible products and practices are not only good for the environment, but are also important for long-term profitability” (Rouse, 2011). Keeping in view this definition, the concept can be practically applied by developing and implementing strategies that allow use of green technology within SC network in order to achieve reduction in cost of energy and any sort of waste. Internal collaboration and external coordination with downstream and upstream entities are essential in order to revise and redefine pertinent practices of procurement, manufacturing, packaging and delivery and to reestablish measurement standards.

According to Preuss (2009) and Wittstruck and Teuteberg (2012), the concept of SSCM, that is also known as “Green SCM” (Dubey et al., 2017; Vargas et al., 2018), is theorized by supplementing actual SCM phenomenon. In order to do so few supplementary dimensions are added that include corporate social responsibility, business ethics, environmental science, economics, political science, organizational theory and technology. It needs to amalgamate key ideas from each area to improvise traditional practices of SCM (Mitra, 2014). Comprehensive definition of SSCM is provided by Haake and Seuring (2009) who consider SSCM as “the set of supply chain management policies held, actions taken, and relationships formed in response to concerns related to the natural environment and social issues with regard to the design, acquisition, production, distribution, use, reuse, and disposal of the firm’s goods and services” and identify need to relate sustainability concerns to each stage of core processes of SC.

Gualandris and Kalchschmidt (2016) explain SSCM in terms of its adoption and implementation that can be categorized into two major phases interlinked with each other. They combine to develop foundation for origination of SSCM concept that initiates within the firm’s boundaries through attainment of sustainability in its in-house processes. It then elongates towards the development of externally sustainable practices by involving direct suppliers and service providers and then collaborating with them in terms of social and environmental interests. Zhang et al. (2018) consider green procurement as a key contributor to implement holistic concept of SSCM.

2.2) Supplier Relationship Management

The effective and efficient management of SC flows is contingent upon communication, collaboration, cooperation and coordination among all involved entities that defines the nature of relationship with upstream and downstream entities (Kanda and Deshmukh, 2008; Simatupang and Sridharan, 2002; Min and Zhou, 2002). SC begins with commodity market and then the raw material passes through each entity in supplier network with some changes in shape and few modifications and then focal firm receives it as an input from first tier suppliers from where it moves downward after being processed as an output and moves through various parties in distribution channel and then reach in the hands of end consumer for whom product is actually being produced, and who will generate revenue that is connected with the fulfilment of specifications and quality requirements demanded by customer (Mentzer et al., 2001). It highlights the importance of effective relationship management with SC partners especially suppliers to optimize ultimate value and overall performance of SC.

According to Short (2014), supplier relationship management is a function which focuses on engaging with groups of supplier in collaborative manner in order to attain the goal of maximizing value through the networking. Atkinson (2014) mention that SRM is “the deliberate pursuit and systematic management of post-contract value, attainable from an organization’s suppliers.”

Hvolby, Trienekens and Steger-Jensen (2007) aver that inter-company relationships are categorized into 3 types according to nature of collaboration that can be based on extended enterprise, SC and virtual enterprise where long-term collaboration can be achieved in SC type of relationships. Outsourcing requires creating connection between external entity, that provides service or product, and internal business functions in order to create and deliver value for customers (van Weele and van Tubergen, 2017; Moeller, Fassnacht and Klose, 2006).

According to Bernhardsson and Lindgren (2018), choices of a business entity in terms of nature and level of relationship to be maintained with its suppliers are influenced by monetary impact and potential supply risk. Gullett et al. (2009) ascertain 7 dimensions of buyer-supplier relationship that include relationship structure, coordination mechanisms, goals, interpersonal relationships, information sharing, top management

commitment and compatibility, and locus of decision making. They also highlight connection between ethics and trust in terms of buyer-supplier relationship. Some important tactics are identified by Hingley, Lindgreen and Casswell (2006) that assist to develop productive supplier relationship. These tactics include expansion in scope of partnership through inclusion of all activities; early participation of upstream allies; trust and cooperation with suppliers and providing more control to them; rising level of collaboration; improvement in long-term planning from perspective of supplier relationships and invest on them for their development.

There exists two types of purchasing approaches that determine the nature of relationship with suppliers including transactional-oriented and relational-oriented perspectives (Moeller et al., 2006 and Hingley et al., 2006) where each has its distinct features and specific requirements for cooperation (see Table 1). Characteristics mentioned in table 1 indicate that when buyer and supplier enter into relational based agreement, they get a chance to grow and develop on sustainable grounds, whereas transactional contract allows buyers to perform transactions to satisfy individual benefits, no matter if the supplier does not get any benefit at the end of the day.

Table 1: Comparison of Transactional-oriented & Relational-oriented perspectives. Source: Adapted from Moeller et al. (2006) & Hingley et al. (2006).

Transactional-Oriented	Relational-Oriented
Various substitutes available	Keep one or few options
Treat each deal in isolation and don't leverage from past interaction	Network approach with relationship based deals
Environment of competition	Environment of co-operation
Short-term gains	Long-term gains
Arm's length relation	Close interaction and communication
Personal interest	Co-prosperity
Frequent partner change to achieve effectiveness and efficiency	Collaborative supplier relationship by combining knowledge and resources
Products focus purchasing	Capabilities focused purchasing
Price focused negotiations	Value creation focus of negotiations

Five types of relationships exist that a company can developed with its suppliers (Procurement Leaders, 2013) such as nuisance, transitional,

transactional, collaborative and partnership based. Decision making in this regard is dependent on supplier market segmentation for 2 dimensions that are “strategic importance” of a supplier and “value of spend” by organization in managing relationship. It then leads towards different relationship characteristics and performance measures where power is divided in different manner among both parties in each relationship (see Table 2). The potency of suppliers to augment supply chain value and performance has upgraded their role from product / service providers to strategic partners (Dash, Pothal and Tripathy, 2018; Khan and Siddiqui, 2018). It vouches that partnership is the most valuable type of buyer-supplier relationship.

Table 2: Relationship Types. Source: Adapted from Procurement Leaders (2013).

DIMENSIONS RELATIONSHIP TYPE	Strategic Importance	Value of Spend	Relationship Characteristics	Performance Measures	Division of power
Nuisance	Don't Exist	Don't consider Drop them	Inconvenience Arm's length	Delivery, price & quality	Distorted relationship
Transactional	Low	Low to medium	Fulfillment of basic requirements on ongoing basis w/o getting significant benefit	Delivery, price, quality & responsiveness	Buyer is dominated Realize internal benefits at expense of seller
Transitional	Medium to high	Low	Offer mixed portfolio (basic as well as significant needs)	Delivery, price & quality responsiveness number of suppliers moving in and out of this section	Customer has more power
Collaborative	Medium	Medium to high	Regular interactions Value proposition is not unique	Time to market & knowledge sharing	Shared power
Partnership	Critical suppliers	High	Supplier influences competitive advantage Long-term engagement	Strategic and organizationally oriented; business performance, customer experience and innovation	Co-prosperity

2.3) Supplier Relationship Management Frameworks

2.3.1) *Supplier partnership model – Lambert, Emmelhainz and Gardner.*

Lambert, Emmelhainz and Gardner (1996) explain partnership model that shows the mechanism to manage partnership among buyer and supplier.

Partnership is considered to be as a relationship type that is characterized with shared interest, closeness, mutual trust and understanding and co-prosperity that actually plays role in enhancing the performance that is greater as compared to that in normal type of relationship without partnership. According to this model three types of partnerships can be formed with suppliers including Type I in which activities are planned and coordinated between buyer and seller on short-term basis targeting single division within firm; Type II is characterized by coordination and integration on long-term basis involving multiple business areas; Type III where integration and trust raised to that level where each firm considers other as its own part.

In order to develop strategic partnership with supplier, it is needed to transform a basic supplier relationship into partnership. For stated purpose, resources including time and money should be devoted. The model, shown in Figure 1, depicts comprehensive partnership process that has capacity to produce successful outcomes. It is comprised of drivers, facilitators and components. Drivers specify factors that motivate both entities to develop partnership to reap benefits including ROI growth, improvements in customer service, marketing rewards. Facilitators indicate ecological factors, which facilitate to develop and maintain partnership, such as compatibility among parties, strategic alignment, similar philosophy and mutual interests. Components aim implementation and include planning, combine working controls and shared risks and rewards that are used by managers in case if drivers and facilitators are robust. Drivers and facilitators provide inputs that are processed through various decisions taken for establishment and adjustment of relationship leading towards components that, if receive effective inputs, results in desired outcomes. All three factors combine to produce specific outcome that is measured against criteria developed in contract at the time of partnership establishment and acts as a feedback after recognizing areas of betterment. It continuously strengthens partnership and improves mutual gains. It provides awareness that effective relationship management requires partnering firms to ascertain and cognize stimulating factors that fortify liaison and support parameters which support to gain the available opportunity. Such factors are then combined to establish basis for sustainable and long-term relationship in order to achieve prosperity and mutual gains as well as to establish appropriate control mechanism that allows continuous improvements to take place.

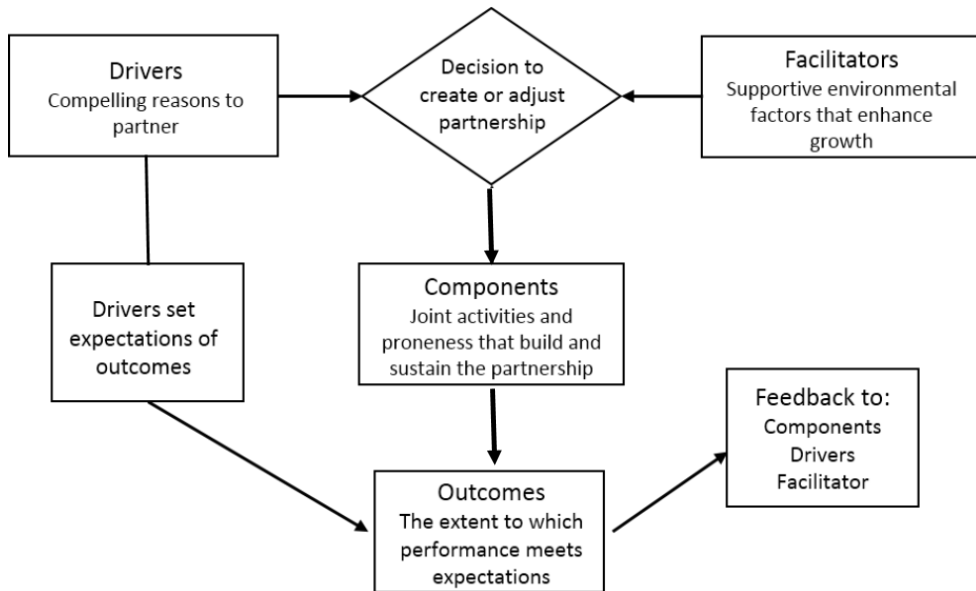


Figure 1: Supplier partnership model. Source: Lambert, Emmelhainz and Gardner (1996).

2.3.2) Supplier relationship life cycle – Moeller et al.

Moeller et al. (2006) applied the concept of customer relationship life cycle to the supply side relationship management of SC and proposed a framework based on their definition of SRM stating that “Supplier Relationship Management (SRM) is the process of engaging in activities of setting up, developing, stabilizing and dissolving relationships with in-suppliers as well as the observation of out-suppliers to create and enhance value within relationships.” This definition identifies three phases of supplier relationship life cycle including Out-Supplier Management, In-Supplier Management and In-Supplier Dissolution Management where each follows other, and all combine to develop basis for a model of SRM (see Figure 2).

Out-Suppliers are vendors who are not currently linked with a buying firm, but they are prospective suppliers for that company in future. Before establishment of relationship in supplier life cycle, the phase of Out-Supplier Management is imperative to consider that focuses on developing database of all available suppliers of market by observing potential suppliers in addition to the current suppliers. All these suppliers are assessed and acquired at any time when needed. The essential part of

supplier relationship management is optimizing the group of existing suppliers that requires keeping an eye on all accessible supplier options, excluding suppliers who underperform and add ones who are more proficient in terms of soft and hard benchmarks of selection that are set by buying company. Two challenges at this stage include balance between high cost of acquiring an out-supplier and financial benefits by performing tradeoff between cost of entering into relationship with new supplier and cost of operating with current suppliers; perform comparative analysis between current and potential suppliers to make a wise decision, as less information is available regarding out-suppliers. Although out-Supplier management is difficult and costly; but it results in long-term benefits by developing fruitful competition between in-suppliers and out-suppliers and leads to performance enhancement.

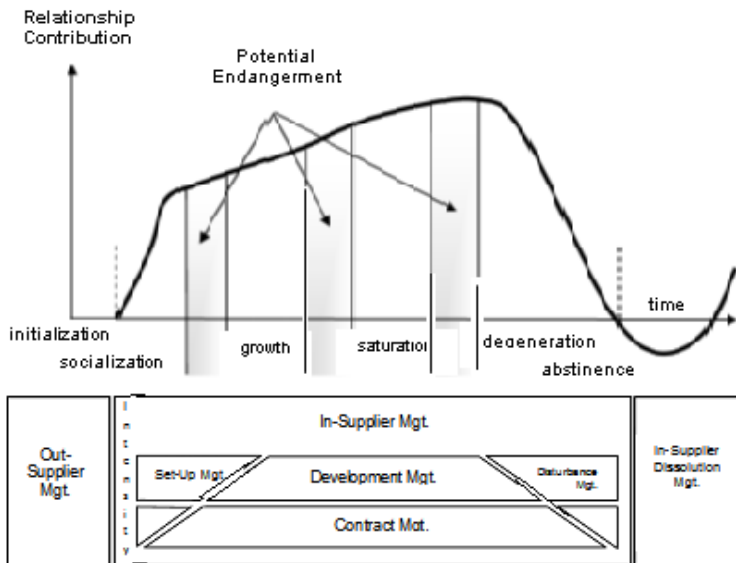


Figure 2: Supplier relationship life cycle. Source: Moeller et al. (2006).

Once relationship is developed with an out-supplier, it becomes in-supplier and then second phase of SRM begins requiring to develop and maintain relationship with it to create enhanced value which requires to identify different type of suppliers and nature of relationship need to be developed with them based on their worth. After socialization, relationship grows, gets mature and then collapse till the end of this phase where relationship contribution continues to increase till degeneration and then

starts decreasing. In-Supplier Management includes 4 sub phases that are Set-Up Management highlighting requirement to set up relationship by making investment; Development Management to identify and evaluate improvement opportunities and undertake activities to enhance performance; Contract Management to develop comparatively increased level of relationship through well documented and agreed upon contract with strategic suppliers; Disturbance Management to make efforts to retain relationship for as long as possible.

Endangerment can occur at any stage of relationship life cycle creating instability and conflicts. It usually happens near the decline phase and may probably end up in termination. In addition to covering the formation and preservation of supplier relationship, effective SRM also manages relationship in its decline phase. It terminates relationship in systematic manner at the time when it enters In-Supplier Dissolution Management stage. A plethora of intangible and tangible resources are consumed during this phase. This reflects that SRM facilitates both entities to take wise decisions and allows buying firm to end partnership in case if supplier is not performing up to the mark instead of wasting time and resources in a dead relationship. Stakeholders can adopt any of two exit strategies in this stage including direct exit strategy and indirect exit strategy. Direct exit strategy requires both parties to take a mutual decision of termination that is well communicated including dyadic communication that follows necessary actions required for disengagement among both parties and then network communication in order to effectively manage changes in network structure. Indirect strategy includes concealed exit, as buyer tries to get rid of relationship by changing terms and conditions that leads to termination and silent strategy where conflicts and problems among parties results in dissolution without explicit expression.

2.3.3) Supplier engagement model – Atkinson.

Atkinson (2014) established an SRM framework that is based on four pillars (see Figure 3). These pillars represent four stages that are interdependent in a way that each stage leads to other and eventually sets foundation for supplier engagement which is an outcome of whole process instead of the actual process. This model is explained in reverse manner so that link of every phase with supplier engagement, which is real relationship objective, can be emphasized and prerequisites of all stages can be identified. Supplier engagement is derived from a clearly mentioned relationship

strategy in written form at strategy phase that is step four, and it needs comprehensive description of opportunities to bring improvement at the time of project planning; assignment of resources to actual implementation phase that is engagement; assessing risk and developing framework for control and monitoring; performing cost-benefit analysis that allows companies to develop mutual understanding of the nature of relationship and the context in which it will operate. Development of relationship strategy is dependent upon deep analysis of relationship to get an insight of its dynamics and then develop aligned strategy. Relationship is analyzed by strategy categorization, analysis of source market, management of supplier account and developing customer profile, understand perceptions of relationship, viewing the nature and extent of dependence among involved parties, visualizing corporate strategies especially those relevant to supplier and assessing performance to recognize potential areas of enhancement and present weaknesses to get support for value optimization in the relationship.

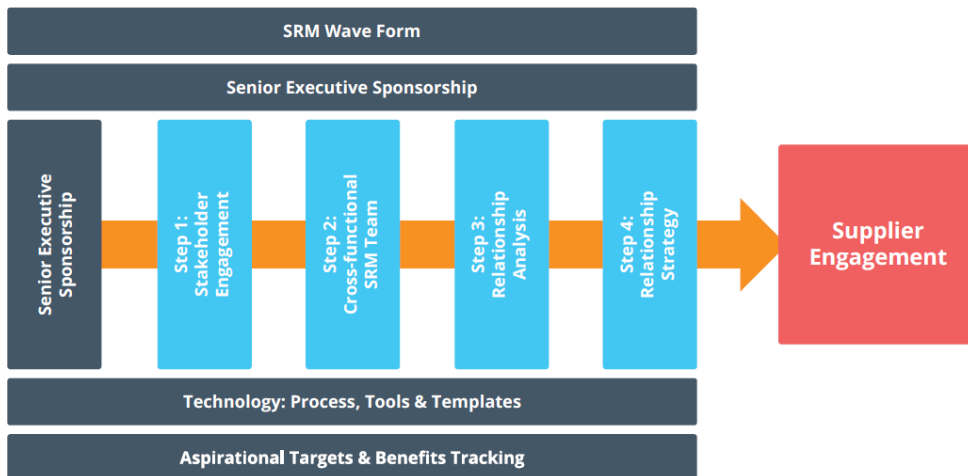


Figure 3: The Four Pillars – Supplier Relationship Management Framework. Source: Atkinson (2014).

Analysis of relationship will support development of relationship strategy to engage suppliers. Crucial decision needs to be taken at the analysis stage is to select analyzer. Such decision is taken via purchasing personnel. It would be highly beneficial if internal parties take these decisions in tandem with external partners including key suppliers that requires to develop cross functional team for SRM at step 3 that actually develops priorities; performs reconciliation and agreement in terms of goals and purpose of

supplier relationship under consideration in alignment with inputs provided by various stakeholders in form of requirements arising from business strategies and aims. All the 4 steps require some support in term of implementation that is provided through use of SRM technology and various tools.

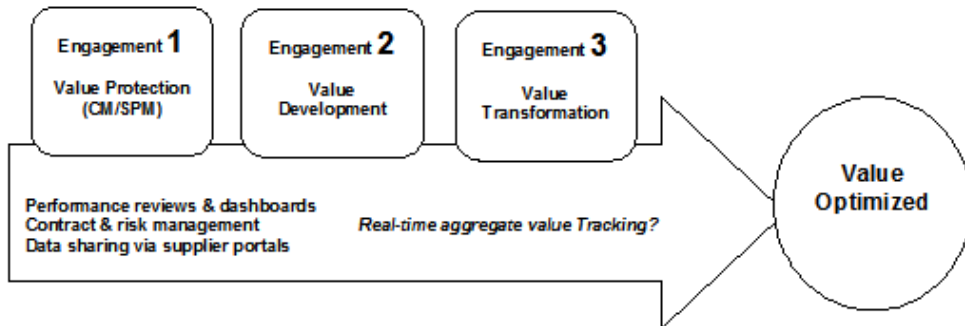


Figure 4: Supplier engagement and value optimization. Source: Atkinson (2014).

The process of SRM comprises of 4 steps that when receive input from top management develop basis for supplier engagement which is ultimate outcome allowing to capture and optimize value from the relationship, that is goals of SRM, that can be done in 3 possible interlinked ways (see figure 4). Value protection is first level of engagement that ensures attainment of KPIs that were mutually agreed at the time of contract development that can be measured using various tools and techniques. It is required to avoid any sort of value leakage through tangible and intangible costs of missing targets, and can be made inbuilt in system through well established and detailed contract documentation to avoid ambiguities and chances of conflicts. The next level is value development that is centered upon the concept of continuous improvement resulting in performance outcomes which surpass original targets and can be achieved through implementation of rigid programs such as six sigma. Finally value is transformed into a relationship characterized by mutual understanding, trust, and collaboration that reinforce value optimization.

Table 3: Comparison of Studied Frameworks

Frameworks	Authors	Focus	Contributions
Supplier partnership model	Carter (2003)	Mechanism to strategically manage partnership among buyer and supplier	Identifies 3 categories of partnership oriented relationship and explains dynamics of each partnership type Presents process focused partnership model that is flexible enough to be applied in multiple scenarios and is supportive for optimal decision making
Supplier relationship life cycle	Moeller et al. (2006)	Application of the concept of customer relationship life cycle to the supply side relationship management of SC	Identifies 3 phases of supplier relationship life cycle and proposes appropriate strategy to be adopted at each phase Introduces the concept of systematic termination of the supplier relationship by effectively managing decline phase of relationship
Supplier engagement model	Atkinson (2014)	Focuses on supplier engagement as an outcome of supplier relationship management process	Identifies 4 inter-dependent pillars of supplier relationship management and highlights internal and external inputs required at each step to achieve final output that is supplier engagement Explains 3 levels of value creation through supplier engagement that are built upon each other to ultimately optimize overall relationship value

2.4) Sustainable Supplier Relationship Management

Rajagopal (2009) states that sustainability of relationship with suppliers depends upon effectiveness of co-dependency that enables suppliers to meet the buyers requirements regarding product and service in an up-to-mark manner resulting in performance optimization. Deloitte (2015) consider SSRM as a tool that supports companies to realize additional value from their relationship with their suppliers providing a new dimension of SRM. It shows that SSRM deals with strategies and actions taken at all stages of SRM to maintain long-lasting relationship with suppliers for the purpose of attaining the objective of value optimization. A framework by Koplin et al. (2007) defines that supply processes and supply policy must be designed in a way to cater sustainability issues in relationships. The study states that for healthier and sustainable relationship with suppliers the organizations must need to list their requirements in supply policy, identify the bottleneck areas which can generate issues, monitor continuously supplier progress over time, develop effective information system and also need to control supplier performance by developing high quality relations.

Suppliers' tendency to support firm in terms of sustainable initiatives lies in the governance mechanism adopted that is featured by flexibility, credibility and adaptability (Awan, Kraslawski and Huiskonen, 2018). Leppelt, Foerstl, Reuter and Hartmann (2013) identified some measures that promote sustainability in supplier relationships. They state that companies should develop well-documented contract that is a prerequisite to initiate operations with supplier. Such contract should be mutually agreed by both parties on the basis of rules, code of conducts, policies and liabilities which combine to act as Standard Operating Procedures (SOPs) (see Figure 5). It is mentioned that communication flow between company and its suppliers should be effective in order to run operations effectively and efficiently. Organizations should involve important suppliers while crafting their strategies at business level, functional level and operational level so that healthy support will be ensured from suppliers. In order to sustain good relations with suppliers, organizations need to focus not only on their development but that of their supplier too, as this will bring optimality in operations and processes (Hertz and Alfredsson, 2003). Organizations can arrange important trainings and workshops for their suppliers to achieve the purpose of supplier development. There is also a strong need of supplier evaluation over time to control and get the desired outcome.

2.5) Sustainable Relationship Management with 3PL

Companies are more focused on their core competencies and prefer to utilize 3PL services to gain maximum in order to be consistent and expert in their offerings (Aguazzoul and Pires, 2016). According to Fulconis, Hiesse and Paché (2011) Third Party Logistics Providers - 3PLs are basically providers of outsourced logistics services to the client companies. Marchet, Melacini, Sassi and Tappia (2016) mention that 3PL industry is facing growth challenges and intense competition, and thus there is need of collaboration between the organization and its 3PL to design *coopetitive* strategies (Baumard, 2009; Dagnino and Padula, 2002) to survive in this challenging environment. They need to develop certain sustainable capabilities to augment their offerings. Soft factors such as owning proficient personnel and relationship management are important as compared to hard factors that are enhancing scope of services, building information system and complete synchronization of efficiency and effectiveness (Hila and DUMITRAȘCU, 2014).

The benchmarks to select and evaluate 3PL are strategically more significant, as 3PL's effectiveness and efficiency act as baseline for other crucial factors. Aguezoul (2014) state that companies usually finalize 3PLs based on a multitude of criteria including cost, services, quality, relationship management, information system, flexibility, delivery, professionalism, financial position, location and overall reputation in market. An organization must list the KPIs for the performance evaluation of the 3PL and then evaluate its logistics service provider against such standards, because the ability of 3PLs to meet standards and to maintain KPIs is supposed to results in long-lasting relationships between both parties.

Gómez, Duque, Rivera and García-Alcaraz (2017) state that 3PL is now considered as a key supply chain entity to confirm optimal offerings, because all tasks ranging from basic logistics functions to advanced level and complex logistics functions involve 3PL which support all involved supply chain stakeholders through common logistical means. 3PL's role of service provider has been transformed to business partner that is needed to attain Supply Chain Sustainability, and it also requires establishing flexible 3PL relationship. Skjøtt-Larsen (2000) highlights 3PL arrangements that are based on Transaction Cost Theory and Network Theory. Transaction cost theory describes situations which make 3PL preferable, while network theory describes dynamics in 3PL collaboration. 3PL is not used only to get cost efficiencies, but it can also be leveraged upon to attain competitive advantage by acquiring enhanced and enriched flexible services (Skjøtt-Larsen, 2000). It shows that the increase in degree of commitment and closeness also intensifies the level of integration that paves the way for development of sustainable relationship between involved parties (Hila and DUMITRAȘCU, 2014). 3PL integration can also be increased through effective information system (Kilby, 2009).

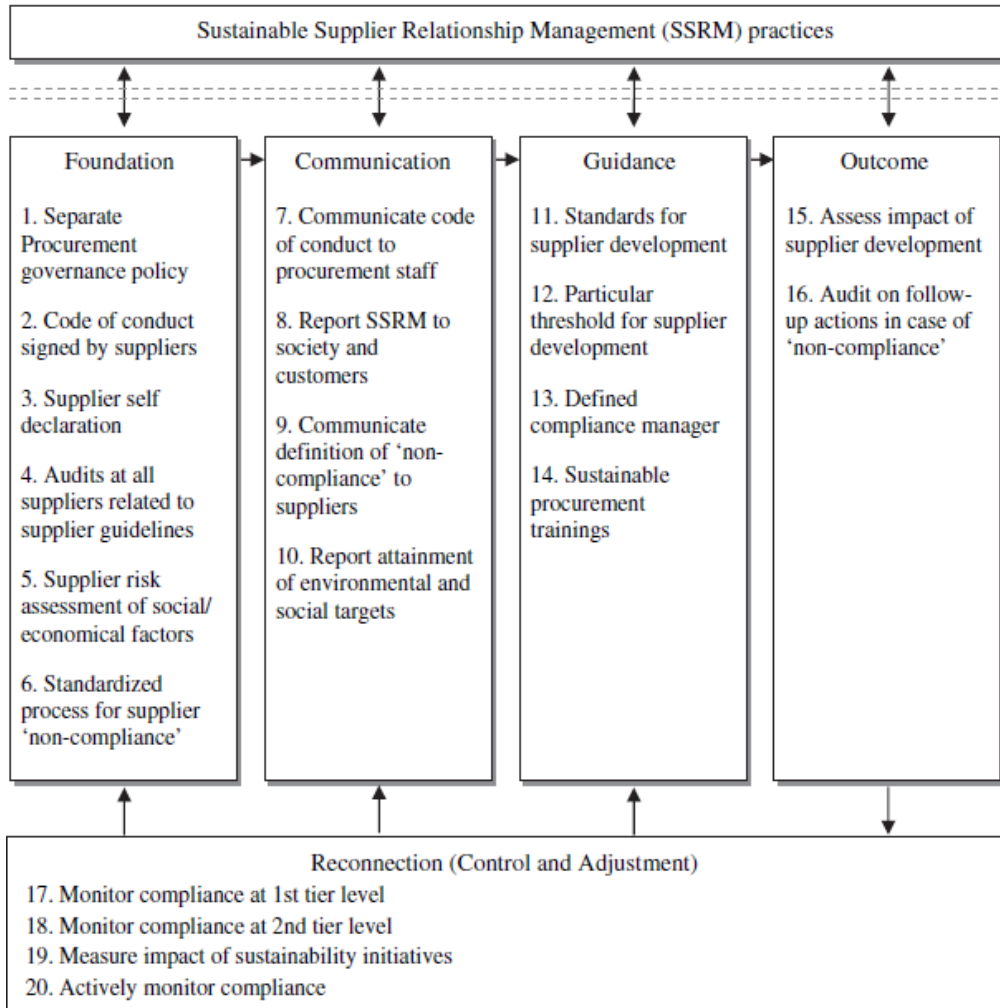


Figure 5: Sustainable Supplier Relationship Management Practices. Source: Leppelt et al. (2013).

Sustainability in 3PL providers' relationships encourages eventual optimality throughout supply chain by involving higher commitment level and integration level to adopt sustainable practices (Veleva, Hart, Greiner and Crumbley, 2003). Organizations require embracing sustainability factors when outsourcing the logistics services to develop sustainable relations with 3PLs providers. Björklund and Forslund (2013) argue that sustainability is derived by certain factors out of which environmental concerns are most important so there must be considerations of environmental performance in terms of CO₂ emissions, energy

consumption and overall impact on environment while entering into a contract with logistics service providers that is stimulated by higher level of involvement of top, functional and operational management of stakeholders. Chen, Zemanek, Mai and Tian (2015) propose that setup embeddedness and clearly stated agreements promote sustainability in 3PL relationship.

According to Lai, Chu, Wang and Fan (2013) the inter-dependence between organization and its 3PL provider has become more critical for business success, as 3PL is embedded into sustainable supply chains that positively impacts financial performance and facilitates growth of both entities. In this way such dependence contributes to optimal and competitive operations. Relationship quality plays a critical role in relationship management with 3PL in three ways: coping with dependence, improving logistics process incorporation, and improving business performance (Lai et al., 2013).

Pappu and Mundy (2002) define different social and economic factors driving the sustainable relations with 3PLs. Social factors involve communication and commitment, higher level of involvement, approaches towards learning rate, a lucid perceptive of potential and necessities, enhancing knowledge and elevating the organization formation covering greater synchronization. Economic factors encompass overall transportation cost, market value of relation, performance indicators driven costs, strategies to save time intervals, decrease in fuel and power cost, effective usage of assets, effective space usage through packed container shipments and on time delivery performance.

3) DISCUSSION & ANALYSIS

Business world initially considered avaricious factors as key success indicators and performance goals that continued to create harmful impacts on other non-materialistic factors. With the advancement in field of SCM, new trends are emerging that change the way of perceiving and visualizing its scope both in terms of flows handling, stakeholder relationships and final outcomes by incorporating soft side including environmental and social concerns. Environment and society are now also considered as stakeholders of a SC so that their interests are needed to be secured to sustain performance of a SC. Such soft goals can only be met in a case if parameters in dealing with other stakeholders are discussed with internal supply chain members for the purpose of improvement. It highlights the

fact that sustainability in external terms (environment and society) is independent on internal sustainability that exist in relationship management with internal stakeholders of a SC (upstream and downstream entities) indicating that one can't be achieved in its true sense in absence of other.

SC configuration should translate the concept of sustainable development both in terms of establishment of goals and undertakings of various actions and practices in alignment with developed policies towards achievement of goals. If SC advances on the sustainable basis, then all practices and operations are performed in a way to think in long-term perspective by protecting environment, society and economy. Profitability and financial goals are inherent in any business venture and commercial SC, but this objective is constrained by ultimate goal of a SC that is customer satisfaction. Similarly the goal of customer satisfaction is contingent upon incorporation of ecological and societal perspectives into practices and outcomes. It means that practices and policies of Green SC are defined by considering constraints imposed by sustainability factors that set the limit till which objective of maximizing profitability can be achieved that result in value optimization. SSCM allows maximizing current financial gains on enduring basis by focusing on ethics; economics; CSR and environmental science with no compromise on its capability to maintain these benefits in the longer run. That's certainly because dissatisfaction of customer, owing to lack of consideration for social, environment related and economical aspects, can cause damage to future financial gains due to shrinking market share and customer loss, which results from bad reputation.

Customer satisfaction goal can only be attained by having synchronization with upstream and downstream parties who play important role in achieving desired level of quality and service that are considered to be as important KPIs of SC performance. Relationship with SC entities can be dealt by different ways creating win-lose, lose-lose, lose-win and win-win situations, but true value can only be realized by developing long-term and mutually beneficial relationships with SC partners based on the concept of co-prosperity in order to achieve win-win situation.

SC Sustainability is connected with supply chain relationship management that plays indispensable role to define the essence of supply chain (fig. 6). It depicts a matrix that is based upon 2 dimensions that are further categorized into two types on the basis of intensities. SC sustainability,

which considers social and environmental aspects, lies on Y-axis, which could be lesser or greater. SC relationship strength is presented on X-axis, and it can either be strong or weak. It is perceived that sustainability goals are essential in order to attain the ultimate SC goals. Sustainability of SC can only be attained to a high degree when close and strong links are present between supply chain entities so that upper left matrix indicates a scenario which does not exist.

It is worst scenario if sustainability of SC is lesser and supply chain relationships are weak, and it is featured with low profits that can be endured for greater time period; nonexistence of SC flexibility because of incompetence to adjust according to customers' requirements; low SC integration; low SC efficiency because of bad waste management and incapability to reap advantages from other stakeholders because of agitated relations; low trust and involvement; and lack of cooperation. A scenario, when SC relationships are strong and sustainability of SC is low, is featured by greater profits which couldn't be maintained in the longer run because of low SC flexibility; absence of sustainability approaches throughout SC; intermediate supply chain efficiency; mild integration intensity; mild levels of trustworthiness and participation; and low cooperation.

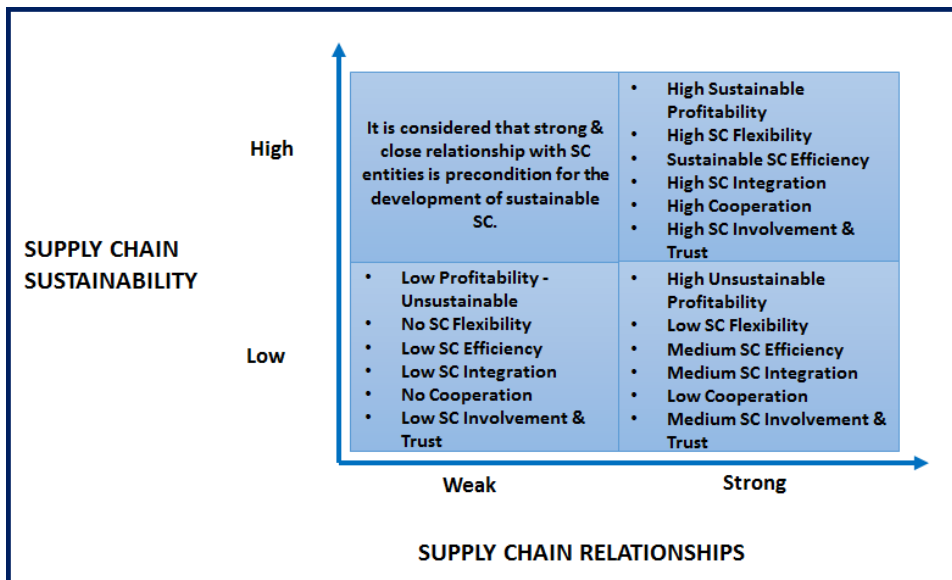


Figure 6: Sustainable SC Relationships.

The ideal case occurs when a SC gains greater levels of sustainability and focal company has developed very good relationships with upstream and downstream entities where high profitability is achieved that can be sustained for long period of time; SC flexibility is high; SC efficiency can be sustained; SC integration, cooperation and involvement will be high. It shows that it is required to maintain and develop strong long-term relationships with other SC parties in order to obtain true potentials of an environmentally and socially sustainable SC, as SC is made of various entities, and each entity is required to adopt sustainable practices that can be interpreted at SC level by maintaining mutually beneficial and long-lasting relationship between all entities. It suggests discussing relationship management and sustainability from perspective of each entity individually, including supplier, focal firm and customer.

SRM inspires companies to believe that suppliers are their important business partners. It has appeared as an imperative factor in current environment in order to survive, because it is significant for efficient and effective SC flows management. There is a pressing need to exert mutual efforts by all involved entities in order to develop long-term relationships. SRM process initiates when company starts looking for new suppliers while managing the potential suppliers in an effective and efficient manner. This process includes selection, development and evaluation (replacement or managing long-term relations) based on supplier performance.

In selection phase companies use to identify the potential suppliers and select the most competent suppliers who matches with their strategic requirements. After selection the development phase drives learning of suppliers in a way that enhances their capabilities, and organization now extracts the benefits of supplier partnership. There is also a need of continuous improvement that enriches the required value by higher level performance. In conclusion value is now converted into a visional long-term relationship which enforces value optimization. In the evaluation phase either there is building of long-term relations or dissolvent of relation in a productive way based on the overall performance of suppliers as compared to defined KPIs.

Organizations and its major suppliers are required to collaborate strategically to build strong, loyal and long-term relations, and it entails high involvement and commitment of stakeholders. Organizations are now

required to consider its major suppliers as key business partners and need to share their corporate intent with a vision to enhance mutual understanding in development of supplier – buyer relationship and also to develop themselves and its suppliers strategically which includes supplier evaluation, competitive pressure management, supplier incentives and rewards and direct involvement of suppliers in different aspects. There is requirement of effective information flows in all directions and higher level of integrations to ensure optimal processes and flows that will reduce uncertainty and conflicts and make things more transparent and visible for supplier for greater understanding leading towards a long and loyal relationship between potential supplier and organization.

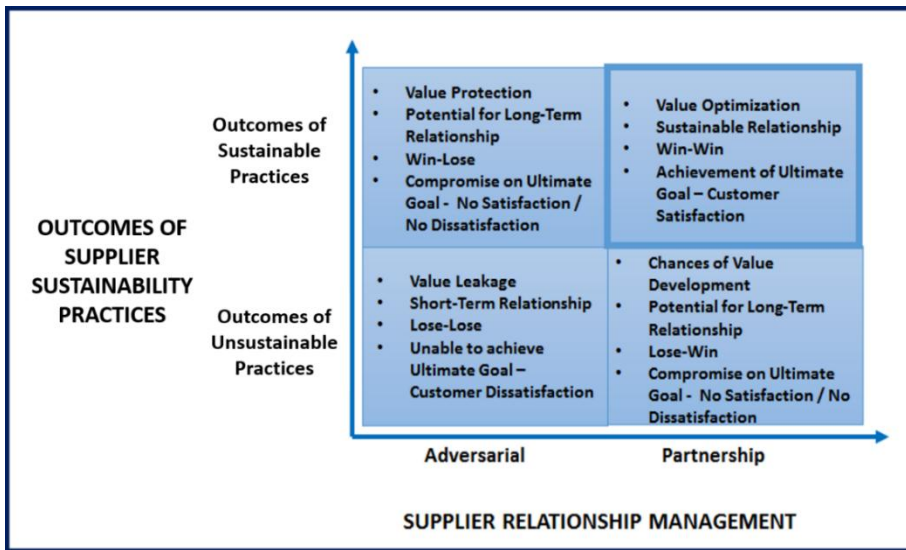


Figure 7: Sustainable Supplier Relationship Management.

SSRM is explained (see Figure 7) on the basis of two key dimensions including outcomes of sustainability practices of suppliers where two conditions can be present such that either supplier adopts sustainable practices or unsustainable actions in terms of consideration towards ecological and social factors and linking such goals to its overall corporate goal; and nature of relationship with supplier where two categories including adversarial and partnership are considered. Outcomes of practices adopted are highlighted in interaction with the supplier relationship management. Lower left matrix represents situation where company has adversarial relationship with its suppliers and suppliers are not functioning in sustainable terms. In upper left side matrix, a case occurs

when organization holds antagonistic relationship with its suppliers, but they are performing sustainable measures so that organization cannot completely exploit the potentially advantageous behavior of vendors. Lower right matrix highlights a situation when firm has formed partnership with its vendors, but their practices are environmentally and socially unsustainable so that it is not feasible for company to sustain its partnership with them.

The most suitable choice to make the most of value from supplier relationship integration is when organization has formed partnership with its suppliers who have aligned their organizational goals with the targets of ethics, social safety conditions and environmental friendly practices. This matrix provides us actual definition of “Sustainable Supplier Relationship Management” highlighting a paradigm shift stating that SSRM is “the development of enduring relationships with suppliers that is dependent upon adoption of sustainability measures by both buyer and supplier firms at all levels from strategic to operational while planning and implementation in order to optimize value that leads towards achievement of ultimate goal of customer satisfaction in a profitable manner”. It indicates that sustainability from perspective of supplier relationship cannot be attained without considering social and ecological concerns that is an imperative criterion to evaluate supplier performance evaluation. If a supplier cannot meet these KPIs, it may be replaced. Creating partnership with suppliers is not enough to create win-win situation if they ignore sustainability conditions. This is actually detrimental for a firm in long-run, can cause severe loss and can also damage its reputation so that ultimate goal will be compromised.

In order to develop SSRM framework, it is essential to specify the category of vendor, and a service provider (3PL) has been finalized in this regard. With emerging rigid and dynamic environment, companies are now more focused on their core businesses and prefer to outsource the rest of the supportive businesses like companies are now outsourcing their logistics services to 3rd parties to reduce the hassle of handling it and getting the desired outcomes without being active part of it.

The role of 3PL was of service providers that are now transformed to business partners in the SC of a company. It compels to build long-term relationship in order to get sustainable gains. These relations with 3PLs get stronger, because the level of commitment and integration is getting higher

with the passage of time which is stimulated by higher visibility, involvement, collaboration, shared objectives and shared strategic understanding. On the other hand it is an essential need for organizations to build long-term relations with their 3PL providers, as the performance of 3PL is directly dependent on nature of relationships they possess with their customers ultimately resulting in higher level of dependence between both 3PL providers and organizations that put both parties in a dead lock dependency situation. The higher level dependency enforces both stakeholders to build long-term and reliable sustainable relationships stimulated by different sustainability factors i.e. social, environmental, and economic. Along with such factors, CPFR and strategic understanding are also critical to develop sustainable relations with 3rd party logistics in order operational optimization and shared benefits. In addition, green logistical practices, green logistical innovations can enhance and enrich the scope of such sustainable relationships with 3PL in an optimal way. Integration of corporate social responsibility into 3PL's business strategy is also crucial to develop sustainable relationship with them, as sustainability cannot be achieved without incorporating social factors.

3.1) PROPOSED FRAMEWORK - SUSTAINABLE 3PL RELATIONSHIP MANAGEMENT

Framework for SSRM with 3PL is developed in the light of SSRM definition developed based upon analysis of various frameworks discussed in literature that will be linked to 3PL specific characteristics. Framework of partnership explained by Lambert, Emmelhainz and Gardner (1996) is taken as base model that is modified by incorporating all points mentioned in section 3 that are derived from other discussed models. The reason behind using it as reference model is that it presents outcome based approach of strategic partnership, which is most important type of supplier-buyer relationship, and provides support for optimal decision making. It is flexible and exhaustive enough to be applied to multiple, distinctive and unique cases as the one focused in this study that is development of sustainable relationship with 3PL who are service providers. Other models are more advanced to conceive a novel ideal of sustainable relationship with 3PL. However, key features from all discussed models have been assimilated to supplement the key constructs of the SLRM model in the process of implementing the characteristics of general partnership based supplier relationship to sustainability specific relationship with 3PL partners.

Proposed framework (see Figure 8) identifies factors that motivate and those that support the decision of firm to create or adjust SSRM through certain type of components that are very crucial to sustain 3PL relationship and finally outcome is developed for which expectations are set by drivers. Then feedback is required to be provided to incorporate into facilitators and components to eliminate gaps from targets and to have further improvements.

Lambert, Emmelhainz and Gardner (1996) explained three types of partnership discussed earlier that are extended to introduce Partnership type 4 (SSRM) that is elaborated in the light of relationship with third party logistic providers who provide most critical services to firm.

3.1.1) Drivers

Various factors involving both internal and external motivates a firm to enter into type 4 partnerships with its logistics services providers. Internal factors include value system of a firm such that if firm aims to incorporate sustainability into its SC to highest level and social and ecological concerns are part of its value then it requires to take services from a firm that also has same values. Internal factors encompass value and top management commitment of a company such that if company intends to include sustainability into its SC to highest level, and ecological and social concerns are part of its value then it needs to acquire services from a company that shares such standards and the higher ups are also dedicated to adopt sustainable practices. Another main internal stimulator is criticality of 3PL, which enforces a company to take decision about SLRM. One of the motivators is also profitability that is inevitable. External factors include the representation of a focal firm by its logistic partners so it is must to have sustainable relationship with them in which adoption of sustainable practices will be inbuilt impacting image and reputation of a company. Stakeholders' role is very important in this aspect such as requirements imposed by customers of focal firm for fuel efficiency, child labor, conduct of drivers and warehouse layout according to safety standards to enhance their profitability and their image as well as that imposed by regulatory bodies considered important in this regard including ISO 14000 Environmental management systems. Certifications of such standard act as enforcement for firms to embrace SSRM practices.

3.1.2) Facilitators

There exists multiple aspects that can facilitate the planning and implementation stage of SLRM in a productive way. Alignment between the values and practices of both firms to reinforce the element of sustainability is supported by strong leadership and top management commitment. Firm's top authorities develop plans and make decision to develop sustainable relationship with 3PL only when its senior team is also dedicated for implementing sustainable practices. Senior executive sponsorship is an important factor in terms of acquiring resources, eradicating barriers, development of standardizes work methods and aspirational stability targets. Support from regulatory bodies in form of guidance and code of conducts in light of standards developed by them actually encourages organizations to adopt sustainability practices in an effective way, and this requires compatibility among stakeholders. 3PL standards include CEN/TR 143 10:2002 Declaration and reporting of environmental performance in freight transport chains, EN 130 I I:2000 Declaration of quality performance in transport chains, EN 13876:2002 Code of practice for the provision of cargo transport services, EN 15696:2007 Specification for self-storage services, EN 12507:2005 Guidance notes on the application of EN ISO 900 I:2000 to the road transportation, storage, distribution and railway goods industries. This compatibility actually helps organizations to work in a collaborative manner to get closer to their mutually agreed targets. On the other hand mutual interests, shared objectives, values and philosophies inspire business partners to work on SSRM optimally for the gain of mutual benefits. In order to implement the pure SLRM framework in a SC, there is need of existing partnership relations and moderate level adoption of sustainability practices in SC as a pre-requisite, as these factors work as lever to implement pure concepts of SLRM throughout the SC. For this there is need of effective communication, because effective information flows management support all parties to work optimally.

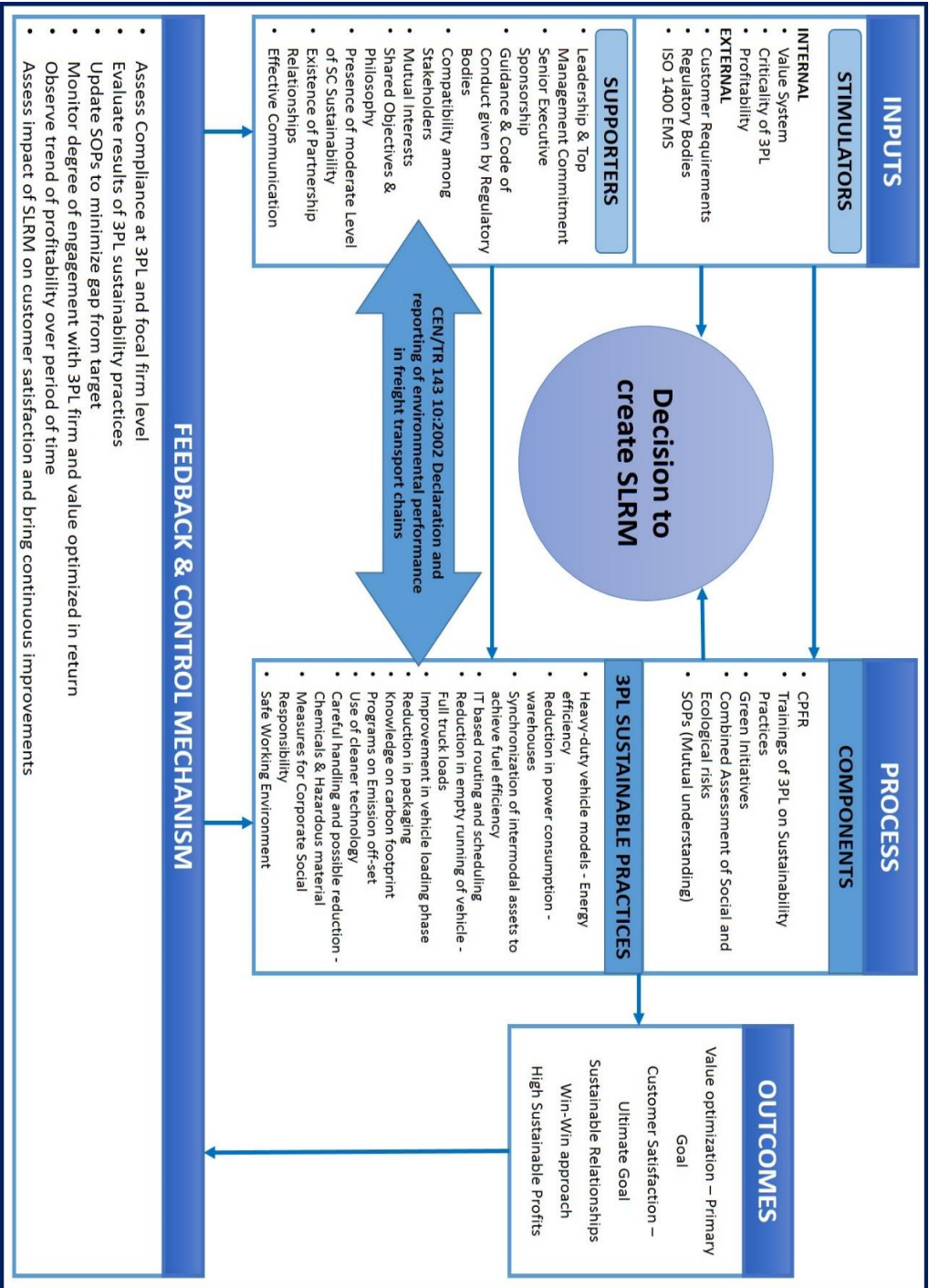


Figure 8: Sustainable 3PL Relationship Management Framework.

3.1.3) Actions

There are some actions general for sustainable relationship and other are specific for adoption of 3PL sustainability practices to develop and maintain SLRM. In order to implement the framework of SLRM to obtain optimal value, there is a requirement of mutual efforts to gain the desired outcome. For this firm and its 3PL provider need to collaboratively develop their plans in a manner to reduce the overall impact on environment. They need to make realistic estimations collaboratively to optimize use of means, i.e. they should work with CPFR approach, as it will help them to integrate at higher level and also allow them to achieve higher level efficiencies by eliminating redundant activities and resources. There must be trainings of 3PL and organization on sustainable practices to enhance their spirit to attain greater level sustainability in their relationships at individual level to attain the optimal value level. This can happen by providing awareness regarding the pressing need to develop sustainable 3PL relationships at the level of community.

A multitude of sustainability practices are required to adopt that encompass synchronization of various modes of transportation and related assets to gain efficiencies in fuel; cutback in packaging and utilizing a lesser amount of material which may also be simply recycled; lessening in consumption of power in warehouses that can be done through connecting with natural light; cutback in empty running of container by achieving full container loads; IT based routing and scheduling; betterment of vehicle loading phase; gaining knowledge on carbon footprint; introducing programs on emission off-set; developing lower targets of Greenhouse Gas (GHG) emissions; use of cleaner technology such as switching to alternative or hybrid fuel technology sources; removal of and reduction in use of chemicals and hazardous materials and handling such substances with care; involvement in recycling and reuse of products such as reconditioning of pallets and minimization of packaging waste; avoiding noise pollution. Firm should take responsibility for tackling social issues in proper manner such as following labor laws especially child labor policies; improving quality of life for drivers, store keepers and other staff by providing sufficient rest time, sufficient wages and security through insurance; setting minority and women quota while hiring staff; indulging in philanthropic activities especially by utilizing the gifts received from giant business partners for the purpose. Safe workplace environment should be provided such as considering safety concerns while taking

decisions about warehouse layout, shelf height, aisles width, picking routes, pallets stacking; set maximum load limit to be carried manually; provide Personal Protective Equipment (PPE) to be worn while using fork lifters and other machines for material handling; maintain and inspect vehicles and machines on regular basis to avoid mishaps and repair whenever a flaw is identified.

It is also needed to focus on the assessment of social and ecological risks and their probability of occurrence in order to maintain sustainability in SC and in relations by minimizing these risks which can be potential harms in establishing sustainable relationships with 3PL. To minimize the impact of exploitation factors, SC stakeholders should define SOPs with mutual understanding and concerns to decrease the non-compliance level to make SSRM practices in case of 3PL more productive.

3.1.4) Outcome

The development that includes SLRM proceedings and sustainability practices *permits* to attain required deliverables. Main objective is value optimization from liaison that needs an engagement level resulting in value guard, value progress and value revolution. Less important objective is customer delightedness, as customer wants focal firm to adopt social and environmental friendly practices. It develops and maintains focal firm's reflection and status. Such circumstances shall be reciprocally advantageous for company and 3rd party logistics, as it will improve overall profits in sustainable manner. It will also result in increased business and repeated order transferred from focal firm to 3PL.

3.1.5) Feedback

It is crucial to measure the performance of Sustainable 3PL Relationship in order to pinpoint areas of betterment and to align actions. It is required to assess compliance at 3PL and focal firm level and evaluate results of 3PL sustainability practices. SOPs will be updated accordingly to minimize gap from target. Degree of engagement with 3PL firm and value optimized in return will be monitored. Profitability trend will be observed. Impact of SLRM on customer satisfaction will be assessed to bring continuous improvements.

4) CONCLUSION

SC fails to achieve its objective of profit maximization and ultimate goal of customer satisfaction without setting sustainability related policies and practices that are favorable for environment, economy and society and are required to be adopted by each entity of SC in alignment with its corporate goal and over all SC goal that is contingent upon nature of relations focal firm has with its upstream and downstream partners. It is required to maintain and develop strong long-term relationships with other SC parties in order to obtain true potentials of an environmentally and socially sustainable SC, as SC is made of various entities, and each entity is required to adopt sustainable practices that may be interpreted at supply chain stage by developing mutually beneficial and long-lasting relationship between all stakeholders.

Relationship management with upstream entities is very important from where flows begin, and any distortion at this level harms final output leading towards customer dissatisfaction. Various strategies are implemented by firms to achieve commonality of interest with their suppliers and to maximize value that is key of effective SRM. Relational based contract are more effective that allow firm and 3PL to exploit a chance to build up and move on sustainable grounds unlike transactional contract in which buyer made a deal for its self-interest even if the supplier's prosperity is sacrificed. Mostly beneficial and valuable type of relationship that is adopted by firms with their 3PL is partnership that is developed with critical logistics service suppliers that have more bargaining power. In case of partnership, long-term engagement exists with 3rd party logistics provider who impacts competitive edge of company. Even though partnership type of relationship is built on enduring basis and provides prospects to generate sustainability, but it cannot be regarded as sustainable relationships in reality, as it cannot facilitate to achieve value transformation which is necessary to optimize value instead it is limited to value development.

The most viable alternative to get the best out of value from 3PL provider engagement is when company has established partnership with 3PL who have aligned their organizational goals with the targets of ethics, social safety conditions and environmental friendly practices. Sustainability from the perspective of 3PL relations cannot be attained with no thoughtfulness of environmental and societal focus which is one of the significant criterion

of 3PL progress rating and a vendor might be changed in case of failure to achieve desired objectives. With reference to the gaps mentioned before regarding the need to have an SSRM-3PL connection, a framework is suggested in which the SL relationship initiators begin the requirement for a decision made by the organization to initiate SLRM which is supported by the relationship supporters and is executed in practical with the support of sustainable 3PL relationship practices that heads towards attainment of already defined sustainable 3PL relationship goals in which the progress is monitored on regular intervals with the use of sustainable 3PL control management for generating sustainable growth.

4.1) Managerial Implications

This study will facilitate organizations in optimal selection, effective development and evaluation of their 3PL providers while considering the SLRM characteristics to avail productive gains of value enrichment. Implementation of sustainability in every aspect of firm, especially in terms of supplier relationship that is supplemented by adoption of sustainable practices, will allow SC managers to maximize profit and to achieve customer satisfaction. This study provides parameters to firms to assess their current relationship state with their 3PL in the light of sustainable supplier relationship matrix. The existing state can be compared with ideal situation highlighted, and then gap can be identified. Then they will strive to minimize and then eliminate the gap by implementing the SLRM model to achieve desirable outcomes.

A closed loop framework is developed that will be beneficial for managers to develop sustainable relationship with their 3PLs. It will guide SC professionals to bring long-term partnership based relationship with 3PLs to a next level to achieve sustainability in relationship so that they will be able to optimize SC value. Outcomes that are required to be attained are clearly mentioned. It will provide them clarity about their target. They will use this model to identify the inputs that stimulate and support the decision to create sustainable relationship with 3PL, and then will develop such sustainability factors within their SC in cooperation with their logistics partner. General and specific actions required to be taken are also highlighted to initiate the process. This model will allow firms to track their sustainability performance on regular basis to achieve continuous achievement through proper feedback and control mechanism.

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