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## Building Sustainability into the Value Co-creation in Supply Chains

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**Claudine Soosay**

# **Building Sustainability into the Value Co-creation in Supply Chains**



# Building Sustainability into the Value Co-creation in Supply Chains

*Claudine Soosay*

This study investigates the sustainability initiatives implemented by various firms in a food supply chain in relation to the value creation activities. As there is increasing interest on how organizations, particularly focal firms, instill or drive sustainable efforts among partner firms in the supply chain, we aim to derive a deeper understanding of how both sustainability strategies and value propositions are inter-related. A qualitative, exploratory case study is employed to address various operations and initiatives evident among firms in a single supply chain in Australia to gain deeper insights into their activities and management approach; and also to understand the context and motivations for sustainability implementation. Our findings depict that sustainability provides both tangible and intangible benefits alongside with enhanced operations. While the rewards are deemed as marginal upstream, it is the downstream players that reap most of these benefits and enhanced reputation. It is well known that focal firms drive sustainable practices in their supply chains for strategic reasons and to enhance value. However the collaborative co-creation of value along the chain requires a focus on achieving both firm and stakeholder value propositions as well as optimal outcomes for all.

**Keywords:** Sustainable Supply Chains, Value Co-creation, Case Study, Resources and Capabilities

## 1 Introduction

The importance of sustainability in today's new global business environment is recognized as a core capability and means to competitiveness. Many organizations have realized that sustainability requires an integrated approach involving various firms in the supply chain. New business models have been developed, which require that firms should seek to optimize value rather than attempt to maximize the value delivered to any one set of interests. These business models factor in the dynamics of supply chains warranting for strategic relationships in enabling sustainability at the inter-organizational level. This involves firstly, long-term relationships that reduce opportunistic behaviors and that reinforce mutual trust; secondly, significant specific investments by organizations that indicate commitment to collaboration and a willingness to cooperate; and thirdly, clear and unambiguous distinctiveness of partner competencies and a balanced integration of them (Baglieri and Zamboni, 2005).

It is established that sustainability can be more effectively implemented with focal firms championing and driving the efforts of their supply chain members both upstream and downstream. This is because they are held accountable for both the social and environmental impacts evident in the chain and are compelled to make decisions and actions governing their supply chain partners (Ciliberti et al, 2008). Therefore, the visible actions and behaviors of focal firms depict what the firm values in the eyes of consumers and stakeholders. Their proactiveness and other awareness building mechanisms (such as in the form of policies, mission statements, internal awareness, communication, training programs, ethical and environmental reporting), could serve as a means to instill supply chain partners

to embrace similar sustainable actions or best practices in sustainability (Gallear et al, 2012). Additionally, there are stakeholders (including consumers) who pressure firms to ensure and report environmentally and socially responsible behaviors along the supply chain. This can be addressed through various measures, such as documenting partner firm requirements, monitoring their performance and compliance; and further engaging in activities building sustainability awareness among firms in the supply chain (Jamison and Murdoch, 2004). Underpinned by the service dominant logic (SDL) to conceptualize value co-creation among firms and the stakeholder theory, this study investigates the sustainability initiatives implemented in a food supply chain based in Australia. It is motivated by a central research question, 'How do firms instill sustainability in their supply chains; and how do these relate with the co-creation activities that enhance value for businesses in the long-term?'

We seek a deeper understanding of the outcomes faced in embedding sustainability practices in supply chain partners. There is growing interest on how organizations, particularly focal firms, facilitate or drive such initiatives among partners. We investigate this in the context of knowledge and capabilities transferred between the business to business (B2B) interactions in the supply chain. Key processes have been identified as contributing to firm-level capabilities; the capacity to identify opportunities and the ability to facilitate changes in operations or processes that results in a sustainable supply chain.

## 2 Literature Review

Supply chains comprise a network of independent yet interconnected organizations with several interrelated activities. These activities commence from upstream with the production and supply of raw materials sent to other organizations for manufacture, processing and transformation into finished products. They then flow through various organizations downstream, including wholesalers, distributors, warehousing and logistics providers before reaching retailers to be sold to end consumers (Thomas and Griffin, 1996). The processes are often complex and require integrated efforts. The success of a business therefore depends on how effectively these partners organize and interact with each other in the supply chain to create value. To be competitive in today's business environment, firms need to be able to eliminate redundant activities across the supply chain to improve costs, timeliness, flexibility, responsiveness and also sustainability (Cooper and Ellram, 1993; Crook et al, 2008; Deshpande, 2012).

### 2.1 Service Dominant Logic for Value Co-creation

The service dominant paradigm (Lusch and Vargo, 2006) highlights how the co-creation of value can be embedded during various interactions taking place during the lifecycle of the product and involving a network of actors in B2B relations (Lacoste, 2015). This is described as the process when actors get together for the co-production of value (Normann and Ramirez, 1993). Similarly, we advocate that this can be applied in a supply chain setting where value in products and services involves the participation of various supply chain partners, with focal firms ensuring that the upstream and

downstream activities can yield intended value propositions of the product. Although value in principle is perceived in monetary terms, there are other forms of value that occur from the relationships and coordinated efforts between firms in the supply chain. Biggemann et al (2014) espouse that relational synergies occur when a long-term relationship between two organizations delivers more collective value than the value that the organizations acting independently could deliver. Value created in interaction may result from sharing resources, knowledge and technology, and also include sustainability practices among firms. Although business relationships are considered important in value creation, greater understanding is needed about the processes by which value is created along the supply chain (Anderson, 1995) and how sustainability could be embedded within. From a business model perspective, Nenonen and Storbacka (2010) prescribe a framework depicting the managerial opportunities for focal firms to influence value co-creation in a network or supply chain. These lie in the design principles, resources and capabilities which are present in markets, product or service offering, operations and management. It can be applied to a supply chain context whereby "the effectiveness of a business model in value co-creation is defined by the internal configurational fit between all business model elements and the external configurational fit between suppliers' and customers' business models" (p.43). While Payne et al (2007) had earlier proposed a model delineating the value co-creation process, it did not explain the types of resources from each actor or the interface types enabling this co-creation of value.

## 2.2 The Need for Sustainability

A growing area of concern is the issue related to sustainability, where firms face constant pressure by various stakeholders to pursue not only economic gains, but also to address social and environmental considerations at both organizational and supply chain levels (Hofmann et al, 2014). It is important to note that the actions and behavior of partners are important as their environmental and social impacts affect the brand and reputation of the focal company ultimately (Braziotis et al, 2013). There have been a number of reputable firms, whose image had been tarnished due to instances of their supply chain members' practices violating social or environmental issues. For example, Apple Inc. was criticized for their Chinese suppliers' environmental air and water reservoir pollution with hazardous waste and breach in workplace health and safety. Similarly, the publicized case of Nestlé sparked public concern when one of its palm oil suppliers upstream in the chain was contributing towards the destruction of rainforests (Skapinker, 2010). The consequent loss of equity and reputation are often difficult to reverse. The responses and reactions of these firms have been to establish corporate social responsibility programs (CSR) within their communities in order to restore their corporate brand and reputation. These violations generally tend to occur in upstream practices and players, but it is also possible for violations to occur downstream in the chain; such as through greenhouse gas emissions in the distribution of final products. Therefore, the importance of what stakeholders and consumers associate with sustainability is paramount not only to businesses, but also to the supply chain.



## 2.3 Drivers for Sustainable Supply Chains

Studies on firms' rationale to implement sustainability in supply chains suggest two major motives: strategic reasons and economic gains. Strategic reasons entail maintaining brand image, enabling new market entry, setting industry standards, creating complementary relationships with supply chain partners, reducing risks of public criticism and to enhance value. Economic gains allow the firms to generate long-term revenues, maximize investment returns, and reduce costs of detrimental consequences or damage recovery of criticisms for unsustainable practices or products. Managers in firms are motivated to adopt sustainable supply chains based on various reasons including the desire for a particular corporate image with customers and other stakeholders (Ageron et al, 2012), or because it is part of the overall corporate mission (Foerstl et al, 2010; Walker and Jones, 2012).

### 2.3.1 Stakeholder Pressure

The literature shows that stakeholder pressure on sustainability in supply chain management may result in sustainability awareness, adoption of sustainability goals, and/or implementation of sustainability practices (Meixell and Luoma, 2015). Stakeholders are any individuals or group of people that affect or are affected by an organization (Freeman, 1984). These include shareholders, senior management, employees, customers and suppliers as 'internal' to the supply chain; or government, non-governmental organizations (NGO), community groups, media, competitors and trade associations as 'external' to the supply chain. Within the premises of

the stakeholder theory, Freeman (1984) assesses the existence of a relationship between firms and different groups. Stakeholder theory underpins all parties influencing or being influenced by the firm. There are three main elements to the theory; namely the organization, the actors, and the nature of their relationship (Lozano, 2005). When observing the first and second elements of the stakeholder theory (i.e. the organization and the actors who relate with it), it can be viewed from a stakeholder perspective how the company acts within the society itself, as well as who affects and is affected by the organization. When considering the corporation and the relationship it has on the society, from a stakeholder theory perspective, there is a shift from firm-centered thinking to systems-centered thinking. The third element explains the nature of the relationships which exist between the organization and its stakeholders, i.e. involving interdependency and co-responsibility.

Meixell and Louma (2015) highlight that undoubtedly stakeholders who pressure firms toward sustainability aim for the implementation of specific sustainability practices, but not all firms will result in this implementation. Nevertheless, such pressure can create awareness in firms about their (stakeholders') interest in sustainability, and subsequent adoption of objectives to achieve these. These authors also depict that external stakeholders such as customers, government, shareholders, NGOs, and society in general have the ability to influence public opinion regarding the organization's environmental practices (Sarkis et al, 2010). As a consequence, firms and their supply chains are subjected to stakeholder impositions to implement sustainable practices.

### 2.3.2 Regulation

Regulation refers to the rules imposed by government on companies; but at current there are no universal laws governing sustainability as a whole. Different nations and States have got their own jurisdictions and governing criteria. Examples include New Zealand's 1991 Resource Management Act, which codified much of its land use and natural resource regime around the paradigm of sustainable development, and Australia's federal legislation, the Environment Protection and Biodiversity Conservation Act 1999, which incorporated the concept of ecologically sustainable development and associated principles as foundations for decision-making. The area of environmental and sustainability law is widely recognized since the 1992 United Nations conference on the Earth Summit, with the adoption of Agenda 21 and the Rio Declaration of Environment and Development, which called on each nation to establish its own national laws for environment and development. The aim is to minimize or eliminate natural resource exploitation and pollution (Benidickson, 2011). Unfortunately, despite the efforts to streamline or standardize environmental regulation, "the financial commitments needed to build the capacity for providing a legal foundation for sustainable development were stripped from the text of Agenda 21. Even when the nations met in Monterrey, Mexico, to pledge the funding for implementing Agenda 21, the commitments turned out to be mostly symbolic" (p.10). Although efforts from the Business Council for Sustainable Development and the 'Rio Conventions' have received widespread recognition, there remain governmental and business interests who oppose environmental law reforms on the surmise that they could impede economic development. As a result, there is no international legally binding

agreement on environmental regulation. Nonetheless, the United Nations Environment Program (UNEP), through its Montevideo programs, serves as a catalyst for various multilateral environmental agreements and has supported the national and international emphasis on environmental laws. It is also evident in many countries with dedicated administrative systems and environmental protection agencies that enforce laws to control pollution and conserve flora and fauna.

Many corporations have promulgated social responsibility not only towards the environment, but also for health and safety compliance. According to Wahl and Bull (2014), private regulation in global supply chains have emerged in the form of codes and standards developed and administered by companies, industry associations and NGOs. These authors posit that such regulations are adopted on a voluntary basis to maintain reputation or ethical standards, particularly in the area of social responsibility. As a result, sustainability is an emerging area of concern for businesses today and it is evident that many focal firms are strategically embedding environmental and social initiatives in their supply chains to indicate their commitment to not only stakeholders, but also customers.

### **3 Methods**

This study is based on a qualitative, exploratory research design due to the limited empirical findings pertaining to how sustainability is implemented in supply chains from a value co-creation perspective. A case study is employed to address various operations and initiatives evident among firms

in a single supply chain to gain deeper insights into their activities and management approach; and also to understand the context and motivations for sustainability implementation (Yin, 2009; Eisenhardt, 1989). The case was selected based on purposive sampling, where published sustainability reports of Australian firms were easily accessible. Initially six firms were chosen on the basis that majority of their supply chain partners were also located in Australia. Subsequently, we considered the firms' accessibility and strategically chose those firms which allowed for a personal face-to-face contact. Also, due to any sensitive data that might arise, building a trusting relationship through personal contact is crucial for the quality of the data. After several weeks of regular contacts and conversations with managers, an organization based in Queensland agreed to participate in this study and provided consent for the researchers to interview its supply chain members. The data collection was conducted through personal face-to-face and online (via skype) semi-structured interviews with eleven managers in total. Whenever possible, one or two other employees of the firms were interviewed to obtain a broader perspective pertaining to their operations and sustainability initiatives. Additionally, secondary or published data were collected through annual reports, sustainability reports, other documents and press releases. This multiple source approach allowed the researchers to triangulate the data which increases the validity and reliability of the results. Interviews were digitally audio-recorded and fully transcribed for analysis. Thematic networks were used for analyzing qualitative and secondary data using Nvivo QSR software (Attride-Stirling, 2001). The process entailed coding the data to identify themes, constructing and ana-

lyzing thematic networks before interpreting the patterns of findings. Interviewees were prompted to describe their initiatives to instill and implement sustainability in the supply chain and to define the value creation activities wherever possible.

## **4 Findings**

### **4.1 Overview of the Supply Chain and the Firms**

Due to the need for commercial confidentiality, the firms in the supply chain studied are referred to as an input supplier, a wheat farmer, a milling firm, a bakery (focal firm) and its franchise retailer. Figure 1 illustrates the supply chain investigated. The Focal Firm is a family owned and operated business, based in Queensland with over 100 employees. The company was established over 60 years ago specializing in baked food products. They own and manage the operational aspects of the business which include baking and retail franchising. The company has over 50 retail stores and is still looking to grow the business. Each franchise outlet receives freshly baked products daily from their central production sites. They are committed to the highest standards in quality, service, brand and design in order to maintain their competitive position in the marketplace. They have won a few awards for their success and sustainability performance. This is characterized by their commitment to reducing carbon footprints and water usage, not only at the firm level, but also at the supply chain level. The Retailer Firm operates as a franchise purchased in 2007 under the Focal Firm's branding. It is located in the city of Brisbane serving over 500 customers a day, primarily office workers and the general public.

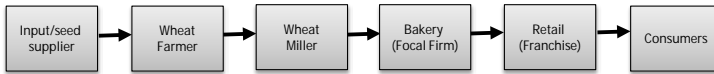


Figure 1 The players in the supply chain

The owners have lamented that the franchising model is under significant pressure currently, largely due to a saturated market in the food sector, the competition from nearby fast food outlets and also because of consumers' evolving tastes and demands. Profit margins are relatively low, considering food price-sensitivity and a constantly high employee turnover rate. Baked food variety is usually quite limited and determined by the Focal Firm as they adopt a commissary system to deliver ready-to-serve products, or products that only need to be reheated before serving. Nevertheless, the franchise outlet has been economically sustainable over the years, based on volume of products sold.

The Wheat Miller is acknowledged as one of Australia's largest processors and distributors of flour and pre-mixed baking products. The business has over thirty years' experience and reputation in flour milling and food ingredient production for bakeries. Majority of their employees possess extensive training and knowledge in wheat variety, storage and milling. They operate their milling factories in various locations throughout Australia, including several additional facilities that produce specialty pre-mixes, wheat for noodles, frozen bakery products and food ingredients. They are notably selective of farmers who can produce high quality grains in order to reap the finest flours milled. They possess the capability to deliver their products throughout the country by adopting centralized distribution systems within each State and also through the use of third-party logistics providers.

The Wheat Farmer has been growing wheat as a major crop for the past twenty-eight years in the South Eastern agricultural region in Queensland after taking over the business from his father. He operates a 900-hectare paddock specializing in Australian Prime Hard (APH) wheat, which is suitable to produce not only high-protein Chinese and Japanese noodles, but also high protein and high volume breads. Hard wheat is also known to be blended with lower protein wheat to produce flours suitable for various baked products. Overall wheat harvest is dependent upon rainfall. The year 2014 experienced an unexpected dry spell in Queensland with scarce rainfall, which resulted in lower soil moisture levels than normal and delayed the planting of wheat crops in April. Despite the dry season, majority of crops survived on stored soil moisture enabling a reasonable harvest. The Wheat Farmer stores seeds from the previous season to grow in the following year, but occasionally purchases seed from a certified supplier or seed breeder when introducing a new variety or extra seed. This is because wheat yield and quality perform differently depending on soil conditions and rainfall regime. 70 percent of all wheat harvested is sold to the wheat miller to be produced into flour, while the remaining is exported overseas. The Input Supplier is a family owned business located in the wheat belt region in Queensland. The business has been operating for 35 years with over twenty employees and specializes in the wholesale of quality assured seed varieties to growers, as well as farm inputs and machinery (such as poly tanks, irrigation equipment, sprayers, augers, fencing and silos). Apart from the commercial retail of their own certified seed lines, they also act as an agent for other seed companies. The company offers advice on farming and quality assurance systems for farmers in seed production, processing,



treatment and storage; enabling full traceability of processes from the farm through transportation and to the wheat miller.

## 4.2 Embedding Sustainability Practices with Value Co-creation

### 4.2.1 Focal Firm

During the interviews with the Focal Firm (bakery), the owner reiterated the importance of being a responsible business. He said:

“For us, sustainability is about acknowledging the impact our business has on our stakeholders, whether it be employees, customers or the communities that we operate in ... It is about being a responsible business, considering the people and environment ... We try to have a proactive approach to sustainability as it determines how we will perform in the long-term and how it impacts on our brand. This means working closely with our franchise stores, suppliers and wheat producers; and treating employees well”.

It is evident that the Focal Firm has established collaborative relationships with their upstream suppliers to take a sustainable approach to the business and to ensure the supply of quality products in the long run. They had engaged in conversations with two wheat growers in the past, primarily about the types and varieties of wheat grown, the farming practices that affect the quality of wheat; and to learn more about crop management and yield. As explained by the operations manager, this helps to ensure consistency, softness, freshness and quality of bread ultimately.

The value proposition in the Focal Firm is about baking 'consistent quality bread' to enhance sales and customer satisfaction, to maintain cost efficiencies in their operations and to invest in their employees. Value is created through the conversion of wheat flour into quality finished baked products. As the operations manager mentioned "We regularly research consumer tastes and demand for bread and other baked products;...and we try to work closely with our suppliers to achieve such products". The business currently uses locally produced ingredients as much as possible. Apart from wheat flour, other ingredients include eggs, milk, butter, flavorings and non-wheat grains such seeds, nuts or dried fruit – all sourced locally. They also purchase in bulk to minimize packaging. For example flour and other dried ingredients are transferred directly into their bin containers from the delivery truck using a pencil auger, therefore eliminating the need for packaging. They are committed to reducing their carbon footprints. A number of initiatives have been implemented in their production facilities, which aim to reduce energy and water consumption. Finished products are packaged using materials which not only maintain freshness of baked products, but also reduce the environmental impact and ecological footprint. The owner added, "We label the products with clear nutrition information to allow consumers to make informed choices of what they are consuming". From a corporate responsibility perspective, the business provides various development opportunities for employees and also works with their retail franchise outlets to improve product and service delivery.

#### 4.2.2 Wheat Miller

Four managers were interviewed at the Wheat Miller. The general manager explained the processes involved at their milling factories from a value creation perspective. Wheat grains received from farmers are firstly sorted and graded into various categories and quality ratings. The grains are then washed and tempered before grinding. Thereafter wheat flour are sifted, purified and fortified with additional ingredients such as thiamine and folic acid. All operations are guided by HACCP standards ensuring food safety and quality control. They have invested in state of the art technology and machinery to facilitate efficiency and quality in their operations. The production manager stated that these have helped bring down costs over the years and reduced human errors because most of their machinery are operated electronically.

In terms of sustainability, the factory manager reiterated their commitment to producing food products in a responsible manner, reducing their environmental impact and improving the communities in the agricultural regions where they are located. They also work with government departments, non-governmental organizations (NGOs) and communities to engender sustainable economic development and promote responsible practices. As the general manager highlighted, 90 percent of their employees are hired from the local region, thereby providing secure, healthy work environments and economic development to the area.

They also continuously seek new ways to assist farmers produce a more effective harvest in a sustainable way and to embrace efficient farming methods. As the marketing manager commented:

“We encourage our suppliers (farmers) to adopt more sustainable practices through reduced use of fertilizers and pesticides...while diseases may impact on yield and quality of wheat, we advise farmers that many of the diseases can be controlled simply through cultural practices and good farm hygiene....for example crop rotation is one method.”

### 4.2.3 Wheat Farmer

We interviewed the owner of the business and two managers on site. They realize that conventional farming practices using chemical pesticides, herbicides and fertilizers are unsustainable. Over the years, the business has invested in more effective eco-friendly methods such as more practical water use, energy-efficient farming machinery and organic fertilizers. All these help to conserve resources and reduce greenhouse gas emissions. They have also sought advice not only from the input suppliers, but also from industry associations such as the Grain Growers Limited, the Australian Grain Growers Co-Operative, Queensland Farmers Federation, the Grain Producers Australia and the National Association of Wheat Growers. The owner of the business expressed concerns about the low profit margins not meeting the high cost of capital, where in some years losses are incurred: “Climate change today can have a huge impact on crop yields at our farms. One would expect good rainfall in Queensland, but 2014 has seen a dry spell.... We were lucky to get adequate rains during the August-September months which helped produce a reasonable crop...but it is hard to predict how sustainable the business will be in the long-term.... The cost of being sustainable is high, not forgetting the costs of labor and fuel constantly rising...It is worrying about how long before I can recoup these costs.”

Leaf and stem diseases are common in wheat crops, particularly in wetter climates such as in Queensland. Many farmers have faced huge losses as a result and need to rely on new varieties that can withstand diseases or use other alternative methods such as spraying with fungicide. From a value creation perspective, wheat farming ensures consistent supply and quality of wheat produced which in turn results in baked bread sold to end consumers. The farmer is aware of how critical this is, with the regular conversations and relationships with downstream partners in the supply chain. As a result, he has adopted a different business model to effectively manage farm activities more sustainably. Nevertheless it was felt that sustainable practices are more costly.

Table 1 below depicts a summary of the sustainability initiatives undertaken by the firms in the supply chain and the value creation activities.

Table 1 Summary of sustainable practices and value creation activities

	Sustainability initiatives	Value creation activities
Farmer	CO <sub>2</sub> reduction through efficient use of machinery	Better use of harvesting tools and techniques for greater efficiencies
	Optimizing resource use (energy, water and land)	More effective irrigation and farm techniques
	GHG emissions management	Use of organic farm manures and fertilizers
	Optimizing land use	More effective storage of wheat and seeds  Adopting direct soil nutrient management practices that have environmental benefits

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	Sustainability initiatives	Value creation activities
Wheat Miller	HACCP standards for food safety	Sorting and grading wheat for quality control
	Good Manufacturing practices and traceability systems enabling effective use of energy and machinery.	Cleaning and tempering of wheat grains to ensure high quality flour
	More reliable equipment and electronic controls to reduce labor costs.	Grinding, sifting and purification
	Food safety, health and wellbeing	Enrichment (e.g. added folic acid, thiamine, iron and vitamins)
	Increased sanitation and reduced use of pesticides	Packaging, Storage
	Provide employment for local communities and contribution to economic development	Recruitment, training and development of employees in the local area

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	Sustainability initiatives	Value creation activities
Bakery	Reducing food miles/GHG emissions	Source locally produced ingredients
	Minimize cost and packaging	Purchase in bulk
	Energy and water use	Delivery to retail stores using optimized routing systems, scheduling, real-time tracking
Retail Store	Food safety, health and wellbeing	Labelling products with clear nutrition information
	Reduce GHG emissions	Switch to green energy
	Minimize waste, environmental friendly practices	Do away with plastic bags, use degradable plastic bags, recycled paper

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## 5 Discussion and Conclusion

The case study illustrates various initiatives undertaken by firms to become more sustainable in relation to value enhancement. Based on the service dominant logic, value is collaboratively created and various resources need to be combined to achieve this value (Vargo and Lusch, 2010). This co-creation of value along the chain requires a focus on achieving both firm and stakeholder value propositions. Hence, we identify how both sustainability strategies and value propositions are inter-related. The idea of value creation according to Smith and Colgate (2007) can be conceptualized using four categories: functional/instrumental, experiential/hedonic, symbolic/expressive and cost/sacrifice – where sustainability lies somewhere between the experiential/hedonic, symbolic/expressive modes (Biggemann et al, 2014). Based on the interviews with managers in various firms, our findings depict that sustainability provides intangible benefits through enhanced reputation (Fairfield et al, 2011; Caniëls et al, 2013), reduced costs and also improved sales (Lo 2014) furthestmost downstream in the chain. While the rewards are deemed as marginal upstream (especially with the low profit margins by wheat farmers), it is the downstream players that reap most of these benefits and enhanced reputation. As we postulate earlier, focal firms drive sustainable practices in their supply chains for strategic reasons such as maintaining brand image, enabling new market entry and setting industry standards and to enhance value.

As businesses seek to achieve sustainable outcomes, stakeholders would need to know the rationale of resource combinations and allocations, and discern how this creates value. We advocate that an important concern is to realize the consumer value that would ultimately guide the resources

and goals of a supply chain. This often gets overlooked when organizations become too focused on operational efficiencies and profitability. Therefore, it is the role of the focal firm to realize this value and take additional steps to embed this into the value proposition and work collaboratively with suppliers and customers at multiple levels to achieve optimal results for all members in the supply chain.

## References

- Ageron, B., Gunasekaran, A. and Spalanzani, A., 2012. Sustainable supply management: an empirical study. *International Journal of Production Economics*, 140(1), pp. 168-182.
- Anderson, J., 1995. Relationships in business markets: exchange episodes, value creation and their empirical assessment. *Journal of the Academy of Marketing Science*, 23(4), pp. 346-50.
- Attride-Stirling, J., 2001. Thematic networks: an analytical tool for qualitative research. *Qualitative Research*, 1(3), pp. 385-408.
- Baglieri, E. and Zamboni, S., 2005. Partnering along the demand chain: cooperation in new product development process. In 21st IMP Industrial Marketing and Purchasing (IMP) Conference. Rotterdam, The Netherlands.
- Benidickson, J., 2011. *Environmental Law and Sustainability after Rio*, IUCN academy of Environmental Law Services, Cheltenham, UK, Edward Elgar.
- Biggemann, S., Williams, M. and Kro, 2014. Building in sustainability, social responsibility and value co-creation. *Journal of Business and Industrial Marketing*, 29(4), pp.304 – 312.
- Braziotis, C., Bourlakis, M., Rogers, H. and Tannock, J., 2013. Supply chains and supply networks: distinctions and overlaps. *Supply Chain Management: An International Journal*, 18(6), pp. 644-652.
- Caniëls, M.C.J., Gehrsitz, M.H. and Semeijn, J., 2013. Participation of suppliers in greening supply chains: an empirical analysis of German automotive suppliers. *Journal of Purchasing and Supply Management*, 19(3), pp. 134-143.
- Ciliberti, F., Pontrandolfo, P. and Scozzi, B., 2008. Investigating corporate social responsibility in supply chains: a SME perspective. *Journal of Cleaner Production*, 15(5), pp. 1579-1588.
- Cooper, M.C. and Ellram, L.M., 1993. Characteristics of supply chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management*, 4(2), pp. 13-24.

- Crook, T.R., Giunipero, L., Reus, T.H., Handfield, R. and Williams, S.K., 2008. Antecedents and outcomes of supply chain effectiveness: an exploratory investigation. *Journal of Managerial Issues*, 20(2), pp. 161-177.
- Deshpande, A., 2012. Supply chain management dimensions, supply chain performance and organizational performance: an integrated framework. *International Journal of Business and Management*, 7(8), pp. 2-19.
- Eisenhardt, K.M., 1989. Building theories from case study research. *Academy of Management Review*, 14(4), pp. 532-550.
- Fairfield, K.D., Harmon, J. and Behson, S.J., 2011. Influences on the organizational implementation of sustainability: an integrative model. *Organization Management Journal*, 8(1), pp. 4-20.
- Foerstl, K., Reuter, C., Hartmann, E. and Blome, C., 2010. Managing supplier sustainability risks in a dynamically changing environment-sustainable supplier management in the chemical industry. *Journal of Purchasing and Supply Management*, 16(2), pp. 118-130.
- Freeman, R.E., 1984. *Strategic Management: A Stakeholder Approach*, Pitman, Boston, MA.
- Gallear, D., Ghobadian, A. and Chen, W., 2012. Corporate responsibility, supply chain partnership and performance: An empirical examination. *International Journal of Production Economics*, 140(1), pp. 83 –91.
- Hofmann, H., Busse, C., Bode, C. and Henke, M., 2014. Sustainability-related supply chain risks: conceptualization and management. *Business Strategy and the Environment*, 23(3), pp. 160-172.
- Jamison, L. and Murdoch, H., 2004. *Taking the Temperature: Ethical Issues in the Supply Chain*, Institute of Business Ethics, London.
- Lacoste, S., 2015. Sustainable value co-creation in business networks. *Industrial Marketing Management*, (in press)
- Lo, S.M., 2014. Effects of supply chain position on the motivation and practices of firms going green. *International Journal of Operations and Production Management*, 34(1), pp. 93-114.

- Lozano, J.M., 2005. Towards the Relational Corporation: From Managing Stakeholder Relationships to Building Stakeholder Relationships. *Corporate Governance: The International Journal of Business in Society*, 5(2), pp.60-77.
- Lusch, R.F. and Vargo, S.L., 2006. Service-dominant logic: Reactions, reflections and refinements. *Marketing Theory*, 6(3), pp. 281-288.
- Meixell, M.J. and Luoma, P., 2015. Stakeholder pressure in sustainable supply chain management. *International Journal of Physical Distribution and Logistics Management*, 45(1-2), pp. 69 - 89.
- Nenonen, S. and Storbacka, K., 2010. Business model design: conceptualizing networked value co-creation. *International Journal of Quality and Service Sciences*, 21(1), pp. 43-59.
- Normann, R. and Ramirez, R., 1993. From value chain to value constellation: Designing interactive strategy. *Harvard Business Review*, 71(4), pp. 65-77.
- Payne, A., Storbacka, K. and Frow, P., 2007. Managing the co-creation of value. *Journal of the Academy of Marketing Science*, 36(1), pp. 83-96.
- Sarkis, J., Gonzalez-Torre, P. and Adenso-Diaz, B., 2010. Stakeholder pressure and the adoption of environmental practices: the mediating effect of training. *Journal of Operations Management*, 28(2), pp. 163-176.
- Skapinker, M., 2010. Nestlé learns to see the wood for the trees, *The Financial Times*, 31 May 2010. Available at: <http://www.ft.com/cms/s/0/f3459df2-6d15-11df-921a-00144feab49a.html#axzz3e49oGsUW> [Accessed 31 May 2015].
- Smith, J.B. and Colgate, M., 2007. Customer value creation: a practical framework. *Journal of Marketing Theory and Practice*, 15(1), pp. 7-23.
- Thomas, J. and Griffin, P., 1996. Coordinated supply chain management. *European Journal of Operational Research*, 94, pp. 1–15.
- Vargo, S.L. and Lusch, R.F., 2010. From repeat patronage to value co-creation in service ecosystems: A transcending conceptualization of relationship. *Journal of Business Market Management*, 4, pp. 169-179.
- Wahl, A. and Bull, G.Q., 2014. Mapping research topics and theories in private regulation for sustainability in global value chains. *Journal of Business Ethics*, 24, pp. 585-608.

- Walker, H. and Jones, N., 2012. Sustainable supply chain management across the UK private sector, *Supply Chain Management: An International Journal*, 17(1), pp. 15-28.
- Yin, R.K., 2009. *Case study research: Design and methods*, 4edn, Thousand Oaks, CA: Sage