

Incorporating Small-Scale Farmers into Sustainable Supply Chains: the Manobi case

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Abstract

Increased globalization and outsourcing to developing countries is fostering the interest in supply chain sustainability. From the academic point of view, while environmental impacts of supply chains have been largely analysed, the research on social issues has been scattered and fragmented. This paper thereby sets out to close this gap. We have identified an emerging sphere of knowledge at the interface between sustainable supply chain management, business strategy and international development literature, which seeks to propose innovative strategies for poverty alleviation. The incorporation of impoverished farmers into supply chains is presented here as one of those strategies, and illustrated through a case study on the integration of these farmers in the Senegalese horticulture supply chain.

Keywords: Sustainable Supply Chain Management, poverty, equity, horticulture, developing countries.

1. Introduction

Increased globalization and outsourcing are leading industries to compete at a supply chain level rather than holding out a traditional inter-firm competition (Seuring & Muller 2008, Andersen & Skjoett-Larsen 2009). In this context, a better informed society is increasingly demanding sustainability requirements to be incorporated in business decision making (Seuring et al. 2008). Different stakeholder groups, such as governments, workers, customers, non-governmental organizations and even shareholders, are exerting pressure to compel companies to act more responsibly towards the society

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and the environment. A responsible behavior is not only demanded within the firm's field of action but also along its entire supply chain (Lee & Kim 2009).

In the last few years, some companies with experience in the implementation of sustainability programs along their supply chains are exploring innovative ways to achieve social sustainability. One mechanism is to analyze how supply chains can contribute to poverty alleviation in developing countries. To give an example, Natura – a Brazilian cosmetics firm – has integrated indigenous communities as suppliers of innovative natural ingredients (Natura, 2012).

This paper aims to enlighten through a case study how to articulate the incorporation of low-income producers into supply chains. It will be structured as follows: in Section 2, we present the results of a literature review focused on the social sustainability of supply chains and on how supply chain strategies can contribute to poverty alleviation. In Section 3, we introduce the case study research methodology adapted to this particular research work. Next, in Section 4, the results of the case study itself are related. Finally, concluding remarks and future research propositions form Section 5, the last section of this paper.

2. Literature review

Social Sustainability in Supply Chains

Sustainability is constituted by three dimensions: economical sustainability, environmental sustainability and social sustainability (Elkington 1998). Research on supply chain sustainability has mainly focused on environmental issues, while the social aspects have remained largely unexplored. In previous stages of this research work, we conducted a review to determine to what extent social sustainability issues have been dealt with in supply chain literature (Borrella et al. 2012). Our study included the analysis of the last five special issues on sustainable supply chain management, published between 2007 and 2009 (International Journal of Production Economics 111 (2), International Journal of Production Research 45 (18-19), Journal of Operations Management 25 (6), Journal of Cleaner Production 16 (15), Supply Chain Management: An International Journal 14 (2)). In our analysis we found out that only 17 papers – out of a total of 71 – made some kind of reference to social issues. From those 17, only 8 were directly centered in the so-called social issues of the supply chain. These papers were mainly focused on the implementation of Corporate Social Responsibility principles along the supply chain through standards and codes of conduct. Social issues in these papers were principally identified with the improvement of working conditions.

There is a call from the academic community to deepen the research on the social dimension of sustainability of supply chains (Carter & Rogers 2008, Seuring et al. 2008). This reveals that it is a field with a great potential for contributions from the academic point of view. Some concepts relating social sustainability and supply chains are currently emerging, such as: corporate social responsibility in supply chains (Pedersen

2009; Maloni & Brown 2006; Andersen & Skjoett-Larsen 2009), shared value (Porter & Kramer 2011), base or bottom of the pyramid business (Prahalad 2005, London & Hart 2004), societal lifecycle analysis (Matos & Hall 2007, Hutchins & Sutherland 2008, Hunkeler 2006), social footprint (Mcelroy et al. 2008) or poverty footprint (Clay 2005). This shows the increasing importance given to social sustainability issues by scholars, but it also underlines that the research on the area has been scattered and fragmented.

Alleviating poverty through BoP strategies

Innovative strategies to fight poverty are being created at the interface between sustainable supply chain management, business strategy and international development spheres of knowledge. Both practitioners and academics are reaching common ground in the emerging social sustainability arena.

Incorporating impoverished communities in the market dynamics has been the focus of a relatively new research field: the BoP literature. In 2002, Prahalad et al. coined the term Bottom or Base of the Pyramid (BoP) market, referring to the existing market at the base of the global economic pyramid: the approximately 4 billion people who live with less than 8 PPP\$² a day (Prahalad & Hammond 2002; Prahalad & Hart 2002). Their statement is that multinational companies can help BoP consumers while increasing their own profits by offering quality products at lower prices; as the BoP is so populous, the margins would still be attractive.

The majority of research in the BoP domain has focused on the way of serving consumers, and the capabilities ventures must develop to be successful in these mostly informal economies. Nonetheless some authors object this approach arguing that: (i) usually profitable BoP products are not socially beneficial and vice versa (Garrette & Karnani 2010); (ii) the BoP market as defined by Prahalad includes the growing middle-class in developing countries, not only the poor (Jaiswal 2008); (iii) the best way to fight poverty is focusing on the poor as producers, not as consumers (Karnani 2005); (iv) very few companies are qualified to compete at the BoP market (Karamchandani et al. 2011).

3. Research Objectives and Methodology

The aim of this paper is to provide some insights into the following research question: “How could impoverished small-scale producers be effectively incorporated into supply chains?”. To the best of our knowledge, very few studies on this subject have been developed from the supply chain domain. The only work we found in direct relation to this research line is the paper from Hall & Matos (2010).

The study presented here emerges from an ongoing research on social impacts of sustainable supply chains. The field of knowledge raised by this paper is not mature yet

² PPP – Purchasing Power Parity

and very little empirical research has been done. This is the reason why using a case study approach was considered suitable. The objective of the case study is to understand the dynamics present in a particular setting: the participation on equal terms of impoverished Senegalese farmers in local vegetable supply chains. The unit of analysis of this case study is the Senegalese horticulture local supply chain: all the actors and functions that enable to move agricultural products from the fields to the local markets. An initiative of Manobi, a Senegalese firm whose activities aim to streamline the link between small-scale producers and local markets, motivated the research.

This case study was selected for theoretical and not statistical reasons. Enterprises dedicated to offer services that foster the integration of the poor as producers in supply chains are rare, so this case study is peculiar enough to be considered an “extreme situation” in which the process of interest is transparently observable (Eisenhardt 1989; Yin 2009).

Case study research is a theory-building approach deeply embedded in rich empirical data coming from a variety of data sources (Eisenhardt & Graebner 2007). Different data sources and methods were used in this research: documentation, archival records, interviews, direct observation and participant observation.

Two researchers travelled to Senegal and stayed there for one month for data collection. We were involved in Manobi’s activities related to the provision of services to farmers, carrying out a participant observation research.

During this stay, the researchers made nine visits to different local markets – both urban and rural – located either in Dakar or in villages of the Niayes region. During those visits, direct observation was applied, as well as interviews to various participants in the horticultural supply chain. A guided interview approach was followed, for the purpose of collecting the same general areas of information from each interviewee while allowing a certain degree of freedom and adaptability. Farmers attending the market, middlemen, market brokers, wholesalers, retailers and consumers were inquired. Semi-structured interviews were also carried out: one to Manobi’s director and two to Manobi’s responsible for the horticultural business area – one at the beginning of the stay and another before leaving. Additionally, three focus groups were organized: farmers cooperative of Kayar, farmers cooperative of Mboro and a group of independent farmers from the village of Darou Salam Thioune.

Internal documentation provided by Manobi was examined and its market prices database was analyzed, in order to find out what percentage of the final value was generally captured by each agent of the supply chain.

Impoverished farmers, and other actors in the supply chain who took part in the study, were selected by the researchers in order to ensure that representative samples of both clients and non clients of Manobi were included.

Validation of confidence of findings was addressed by using triangulation (Eisenhardt 1989; Lewis 1998). Multiple perspectives were also provided due to the participation of two researchers on this study, which generally reduces bias and provides complementary insights, enhancing the confidence on the findings.

Table 1 Sources of information and data collection methods used in this study (own development).

		SOURCES OF INFORMATION					
		Manobi	farmers	Middlemen	Market bro- kers	Wholesalers	Retailers
DATA COLLECTION METHODS	Documents	*					
	Archival records	*					
	Interviews	*	*	*	*	*	*
	Direct observation		*	*	*	*	*
	Participant observation	*					

The results obtained from this field work are presented in the following section.

4. The Manobi case: Integrating Impoverished Farmers in Senegalese Horticulture Supply Chains

Context

The horticulture sector in Senegal was responsible of the 17% of the GDP in 2010 (World Bank, 2012) and it is estimated that it provides work to a 35% of the population. Small-scale farmers are responsible for most of the horticultural production in the country. This sector is quite disorganized, characterized by highly fluctuating prices, great vulnerability to imported products, inefficient links between the farming fields and the main local markets, complicated and expensive logistics and poor infrastructures. Many actors play different roles in the chain, but the structure is unclear and the coordination, weak, leading to a low efficiency of commercial transactions.

Manobi is a French Senegalese medium-sized company located in Dakar, the capital of Senegal. It is the first Senegalese operator of added-value services through mobile phone applications. Most of its services seek to facilitate professional activities in the primary sector: agriculture, fishing and poultry. Its client portfolio includes from big multinational companies to small-scale farmers. Manobi's purpose is to help professionals to improve their management abilities, reduce their operating costs and develop their business competitiveness.

Hindering factors for the incorporation of small-scale farmers into supply chains

As a result of the field research carried out with Manobi, we identified a number of hindering factors that inhibit the incorporation of small-scale farmers in the Senegalese horticulture supply chain in equitable conditions. We have structured those barriers in four categories: information, production, credit and payment, and organization.

Table 2 Main barriers faced by small-scale farmers in the Senegalese horticulture sector (own development)

INFORMATION	Uncertain price fluctuation
	Information distortion and lack of transparency
	Fast expiration of the information validity
PRODUCTION	Low product quality
	Low efficiency of production
	Lack of conservation infrastructure
FINANCES	Cash-flow problems
	Payment inconsistency
	Difficult access to credit
ORGANIZATION	Geographical dispersion of farmers
	Weak cooperative movement
	Scarce contractual relationships

All these difficulties have repercussions on the whole supply chain performance, but the biggest impacts fall on the weakest participants in the supply chain: the impoverished farmers. Their negotiating position is undermined and they become more vulnerable with regard to other supply chain agents.

ICT solutions to connect farmers and markets more efficiently

Manobi was worried about the low percentage of the product final value that was captured by the farmers. From Manobi's point of view, growers were the ones supporting the highest risks and constraints – non-payment, crop failure, input procurement – and the lowest benefits. After doing some research, Manobi got to the following conclusion: the limited bargaining power of farmers was due to a lack of access to reliable current information on market prices.

In 2003, Manobi set out an information service consisting of a database fed daily by market pollsters and a diffusion mechanism through mobile phone technology. The aim of this service was to provide almost instantly objective up-to-date information about horticultural product prices in the main local markets.

Target customers for this service were impoverished farmers living in rural areas. Therefore, it was designed as a low-cost service, which could be activated under request – sending a text message. A little initial investment was required to receive the “start service pack”, which included a cell-phone and some phone credit.

Results

The service was very successful. The platform reached 60.000 associated clients. Not only farmers were interested in Manobi's service, but also traders and middlemen, who could optimize their journeys and choose more efficiently the most profitable market to sell their products thanks to a better access to information.

Farmers improved their bargaining power but their income did not remarkably increase. The access to information made the system more transparent, but the existence of other deep structural problems, such as poor infrastructures – lack of proper warehouses, bad

road links – or cash-flow problems, compel farmers to sell their products at a still low price to the middleman.

The service success lasted for a while, but after some years the number of active clients plummeted. We consider that this drop of demand was caused by the fast expansion of cell-phone access in Senegal. The penetration was of only 8% when Manobi began offering its services in 2003, quickly growing to 27% in 2006 and reaching 67% in the year 2010 (World Bank, 2012). In 2003, the lack of access to reliable up-to-date information was a big problem; but as the mobile phone sector grew, this difficulty disappeared. People working at the market became the main market information providers.

5. Conclusion and further research

Incorporating impoverished farmers into supply chains is a challenge. Supply chains in developing countries have a lot of failures, and the consequences of any malfunction affect more intensely the weakest agents. In this paper we have contributed to the literature on socially sustainable supply chains by presenting a case study that enlightens some of those challenges. Within the Manobi case, we have identified and classified the most important problems faced by small-scale farmers in the Senegalese horticultural supply chain. Manobi addressed one of those problems – information asymmetry – by providing a cheap information service through cell-phones. However, without a holistic approach to improve all the constraints faced by these producers, results were poor. Fair and transparent trading conditions should be guaranteed, as well as the production techniques and infrastructures improved, the architecture of the system strengthened and the access to credit and financial services facilitated.

Further research could deepen in the understanding of the barriers faced by impoverished communities to become solid empowered suppliers, explore the ways to overcome these difficulties, or research how to improve the performance of poor-inclusive supply chains.

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