Chapter 14
Sustainable Supply Chain Management at the Base of Pyramid: A Literature Review

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Abstract In recent years, establishing partnerships with actors from the so-called base of the pyramid (BoP) has become a pivotal task for firms that operate or do business in developing countries. By engaging in BoP markets, firms are able to meet their own growth targets while simultaneously stimulating the economic development of poor countries. Due to the increasing relevance of sustainability, business decisions have to be made under consideration of economic, environmental, and social criteria. As a consequence, new challenges for supply chain management (SCM) arise. Even though these management theories are somehow connected, only little attention has been given to linking BoP research and sustainable supply chain management (SSCM) yet. This chapter sheds light on this research area. A systematic review and content analysis of 76 related papers is presented to examine the state of research. The examination of sustainability constructs reveals a clear dominance of social aspects and a deficit in environmental sustainability consideration in SCM, while the integration of all three dimensions of sustainability is still occasional. The study contributes to research by analyzing the coherence of sustainability, in particular its social and societal aspects, and SCM at the BoP. Practitioners gain insights on social and societal aspects of SCM in context to poverty alleviation and making business with the poorest members of the world.

Keywords Base of pyramid • Supply chain management • Sustainability • Social responsibility • Literature review • Content analysis

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14.1 Introduction

Poverty alleviation through profit has caught increased interest in recent years (Khalid et al. 2015). It aims at reducing poverty by serving the poorest members of the world population, the so-called base of the pyramid (BoP), and improving of living standards by including the BoP members in global supply chains (SCs) (Agnihotri 2013). Its development led to an inclusive approach of creating fortune with the BoP, combining both economic and social goals (Calton et al. 2013). By engaging in BoP markets, firms are able to stimulate economic development in poor countries and successfully meet their targeted level of growth (Seelos and Mair 2007). Thus, identifying, building, and maintaining partnerships with actors from BoP became pivotal tasks for firms when implementing BoP projects (Hahn and Gold 2014).

In parallel, growing relevance of sustainability is evident in business and research. This is indicated by rising awareness of business sustainability and by growing importance of sustainable supply chain management (SSCM) as well as by a growing number of journal publications (Schaltegger and Harms 2010). SSCM complements the economic framework of traditional supply chain management (SCM) by environmental and social aspects that become tremendously important in today's global SCs (Seuring and Müller 2008).

The integration of sustainability into SCM and poverty alleviation through business at BoP are very current issues, and linking these areas to SCM opens the door to an interesting research stream. However, little attention has been given to the coherence of BoP and SSCM so far (Khalid et al. 2015). This chapter assesses recent developments, current status, and future trends of SSCM research in BoP context. A literature review is presented that elaborates on three research questions:

1. SSCM context: What are the aspects for SSCM at the BoP?
2. BoP context: What is the motivation behind firms' orientation towards BoP and who is benefitting from organizations serving the BoP?
3. Application context: What are the pressures hampering and the incentives supporting the SSCM implementation at the BoP?

The remainder of this chapter is organized as follows. Background information on (sustainable) SCM and the BoP is given in Sect. 14.2, while Sect. 14.3 introduces the research method and in particular the structural dimensions and analytic categories of the content analysis. Results of the descriptive analysis and the content analysis are presented in Sects. 14.4 and 14.5, respectively. Concluding remarks are given in Sect. 14.6.

14.2 Background

14.2.1 Sustainability

The concept of sustainability was firstly introduced in 1713 by Carl von Carlowitz who described a type of forest management which only allowed the extraction of trees as much as can grow again in the same period of time, as to ensure the conservation of the forest as a source for the raw material wood (Schuler 2000). Following this idea, a system is called sustainable if it supports the permanent and viable development of human existence (Enquete-Kommission des Bundestags 1998), in other words if it "meets the needs of the present generation without compromising the ability of future generations to meet their own needs" (Work Commission on Environment and Development 1987). Sustainable businesses need to be profitable while considering environmental aspects and allowing better social outcomes (Pava 2008). These approaches to economic, social, and environmental sustainability form the triple bottom line (TBL) framework (Elkington 1998, 2004). Economic sustainability establishes business models that generate more value with less resource consumption at a robust rate of economic growth (Jamali 2006). Environmental sustainability focuses on the preservation of non-sustainable resources, the regeneration of renewable resources, and the pollution and degradation caused by energy and material consumption (Alshuwaikhat and Abubakar 2008). Social sustainability aims at creating and promoting awareness of social relationships, interactions, and institutions affecting sustainable development (Jamali 2006).

14.2.2 Sustainable Supply Chain Management

A supply chain (SC) is defined as "a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services finances, and/or information from a source to a consumer" (Metzer et al. 2001: 4). SCM affects all entities within the SC and requires their efforts (Metzer et al. 2001). Consequently, the consideration of sustainability in SCM affects all entities within the SC, and a sustainable development requires each entity to be sustainable, delivering economic, social, and environmental benefits. According to Seuring and Müller (2008: 1700), SSCM is comprehended as "the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e. economic, environmental and social, into account which are derived from customer and stakeholder requirements." Nowadays, the integration of social, environmental, and economic responsibilities in SCM has become a pivotal challenge for firms and a highly relevant research area (see, e.g., Seuring and Müller 2008; Brandenburg et al. 2014; Brandenburg and Rebs 2015).

14.2.3 Base of the Pyramid

The expression "base (or bottom) of the pyramid" can be traced back to its earliest use by US President Franklin D. Roosevelt in a radio address on April 7, 1932, in times of the great depression, referring to the American poor as the "forgotten man at the bottom of the economic pyramid" (Vachani and Smith 2008). In 1998, the development of BoP concept was started by Coimbatore K. Prahalad, Stuart L. Hart, Allen Hammond, and others (Kolk et al. 2013). Nowadays, the BoP refers to the world's poorest people, about two-third of the world's population, who live under indecent conditions of extreme poverty (Prahalad and Hart 2002; Prahalad, 2005). According to Prahalad and Hart (2002), the BoP represents the fourth and bottom tier of the world economic pyramid that includes 4 billion people with an annual income of less than US$ 1,500. Tier 1 of the pyramid comprises about 100 million middle- and upper-income people who earn more than US$ 20,000 per year. Tiers 2 and 3 of the pyramid include the poor customers in developed countries (tier 2) and the rising middle classes in developing nations (tier 3). The two middle tiers comprise in total about 1.5 billion people who earn less than the people at the top of the pyramid and more than the people at the BoP.

Moreover, BoP is understood as an environment in which the poor people are generally excluded from formal market transactions (Sesan et al. 2013). Most of the global poor live in developing countries where 40–60 % of economic activity is informal (Vachani and Smith 2008). BoP members often live in rural areas or urban slums where lacking credit availability and widespread illiteracy hamper the establishment of any business and, thus, participate in informal economy which is characterized by corruption, currency fluctuations, and inappropriate infrastructures (Prahalad and Hart 2002).

The BoP proposition aims at alleviating poverty by mutual value creation (Prahalad and Hammond 2002). Multinational enterprises (MNEs) are invited to take advantage of the huge untapped purchasing power at the BoP by developing and selling adequate products and services to the poor. The ventures are expected to generate value for their investors and to increase the prosperity of the poor by meeting their essential needs and by creating employment opportunities. In order to do so, firms need to explore and understand the informal relationship structures in BoP markets (Karnani 2007) which have to be turned into a market-based economy that enables free and transparent private sector competition without corruption (Landrum 2007). From the firm's perspective, engaging in BoP markets means to transform the existing business models and to develop innovative processes and products.

Earlier BoP propositions were very much consumer oriented and thereby were largely criticized for their narrower definition of poverty as insufficient purchasing power and for their exploitative qualities that lack truly sustainable development orientation (Shivarajan and Srinivasan 2013). More recent BoP approaches aim at establishing business partnerships with BoP communities and making them an integral part of the business that generates real income. The poor are considered as suppliers, partners, and entrepreneurs, and sustainable development is to be achieved

by business cocreation with mutual sharing, learning, commitment, and dialogue between firms and BoP communities (Simanis and Hart 2008).

14.3 Methodology

Conducting a literature review allows identifying and conceptualizing the state of research, helps contributing to theory development, and, thus, is adequate to assess specific areas of SCM research (Seuring and Müller 2008; Seuring and Gold 2012). Hence, literature on SSCM in BoP context is systematically reviewed in a content analysis that sheds light on developments and trends of related research (Krippendorff 2013). The content analysis is executed in three steps, namely, (1) material collection, (2) category selection, and (3) material evaluation that are explained in greater detail in the following subsections.

14.3.1 Material Collection

Material, i.e., scientific journal publications, is collected by search in "Web of Science" based on the keywords "base of the pyramid" and "bottom of the pyramid." The paper sample compilation is focused on the research domains "business and economics," "social sciences and other topics," and "operations research and management sciences."

In order to ensure a clear basis for this analysis, each paper of the sample has to match the following criteria:

1. The paper is written in English language and published until 2014.
2. The paper focuses on both areas, SSCM and BoP, while publications that elaborate on only one of these areas were excluded.
3. The paper explicitly refers to SCM and SSCM categories developed by Beske and Seuring (2014), Seuring and Müller (2008), and Chen and Paulraj (2004).

As a result, a sample of 76 papers was obtained.

14.3.2 Category Selection

The paper sample is classified according to categories that represent three sections. The first section, SSCM performance, reflects the three dimensions of the TBL, i.e., economy, environment, and society. The BoP context as second section reveals the beneficiaries and the motivation of business implementation at BoP. The third section is dedicated to sustainability triggers of SCM in BoP context.

Table 14.1 Structural dimensions and analytic categories

Economy	
Financial categories	**Nonfinancial categories**
Cost	Quality
Profitability	Delivery speed
Growth	Delivery dependability
	Flexibility
	Innovative capability
Environment	
Input-related factors	**Output-related factors**
Water	Emissions and pollution
Land	Waste management
Other resources	
Society	
SC-internal factors	**SC-external factors**
Acceptability	Education and literacy
Availability	Infrastructure
Staff training	Health
Wages	Income distribution/purchasing power
Employment	Prosperity
Affordability	Substitution
Child labor	
Human rights	

The structural dimensions and analytic categories as listed in Table 14.1 were deductively derived as well as inductively defined. The economic dimension is split into financial and nonfinancial categories. The environmental dimension separates input-related factors and output-related ones. The social dimension distinguishes SC-internal "social" criteria from SC-external "societal" ones.

The classification scheme related to the BoP context is dedicated to the essential matter of defining (1) the beneficiary and (2) the motivation of the BoP model of development. The beneficiary categories comprise "win-win situation" of two actors or groups that profit from business, one single "actor/organization," the "BoP" community, and "unmentioned" or undisclosed profiting actor. These categories were derived inductively during the coding process.

The SSCM-related structural dimensions and analytic categories are deductively derived from Seuring and Müller's (2008) SSCM framework that links sustainability triggers – pressures and incentives – of government, customer, and other stakeholders to the focal company of a SC and its multitier suppliers.

14.3.3 Material Evaluation

The material evaluation includes a descriptive analysis followed by a content analysis. The descriptive analysis informs about the distribution of papers over time and about most relevant journals as well as about the applied research methods. The content analysis informs about the number of occurrences of every single analytic category in the coding of the paper sample. These numbers of occurrence illustrate the importance of each category and allow for deducting generalized statements on the research field of SSCM and BoP. In addition, detailed information is extracted from the main text of the reviewed papers to reveal additional insights from the paper sample.

14.4 Descriptive Analysis

The distribution of papers over time, as illustrated in Table 14.2, exemplifies the growing relevance of SSCM research in context to BoP. More than 80 % of all related papers are published in the last 5 years of the considered time horizon.

Four journals are identified as highly relevant for the research area in focus. About every third paper of the sample is published in Journal of Business Research (nine papers), Journal of Business Ethics (six papers), California Management Review (five papers), and Journal of Product Innovation Management (four papers). However, the paper sample is compiled from 27 journals that cover a wide range of topics including business studies and strategy, marketing, and product innovation as well as organization and technology development. Surprisingly, hardly any paper of the sample is published in a journal that clearly focuses on operations management or SCM.

As illustrated in Table 14.3, qualitative methods such as case studies or conceptual frameworks are clearly preferred to elaborate on this research area. In contrast, empirical-quantitative studies and formal models are underrepresented.

Table 14.2 Distribution of papers over time

Year	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14
#	–	–	2	–	–	2	1	3	3	3	14	11	21	13	3

Table 14.3 Distribution of papers over research methods

	Empirical	Theoretical	Sum
Qualitative	43	29	72
Quantitative	3	1	4
	46	30	76

14.5 Content Analysis

14.5.1 Sustainability Dimensions: General Context

The Venn diagram depicted in Fig. 14.1 provides an overview on the number of papers addressing economic, environmental, and social sustainability issues.

The social dimension is addressed in 71 papers and, thus, forms the dominant TBL dimension in BoP literature. The challenges corporate firms have to face when establishing business at BoP are mostly of social nature and represented by purely social, socioeconomic, and socio-environmental topics. Economic considerations are taken into account in 67 papers, and profit is identified as main reason why firms do business in the highly complex BoP environment. Compared to the other TBL dimensions, environmental factors are surprisingly less often considered. Ecologic aspects are addressed in combination with social or economic issues (in total five papers). All three dimensions of the TBL are reflected in 24 papers which, thus, can be considered holistic.

14.5.1.1 Economic TBL Dimension

As illustrated in Table 14.4, the economic dimension is separated by financial and nonfinancial categories.

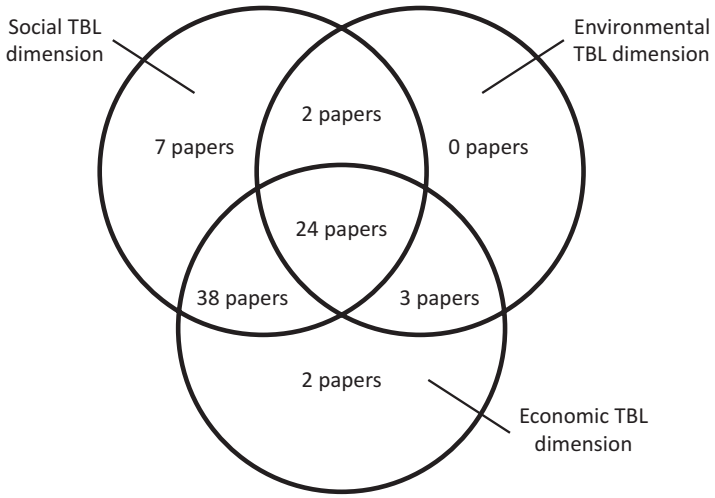

Fig. 14.1 Occurrence frequencies of sustainability dimensions

Table 14.4 Occurrences of economic categories

Category		Number of occurrences
Financial categories	Profitability	46
	Cost	32
	Growth	22
	Thereof firm growth	11
	Thereof economic growth	6
	Thereof firm and economic growth	5
Nonfinancial categories	Innovation capability	37
	Quality	22
	Flexibility	8
	Dependability	2
	Speed	–

Financial Categories of the Economic Dimension

Profitability, measured by indicators such as return on investment, productivity, or revenue, is the dominant economic category. Profitability is the main motivation behind a firm's engagement in BoP environment. It stands for the desire to maximize profits in the BoP markets, simply spoken to make as much money as quickly as possible through business at the BoP. The sustainability of these business activities is questionable because short-term profit maximization and uncertainty avoidance hamper growth and inclusive business in BoP markets and, thus, imbalance financial and social aims (Halme et al. 2012). Profit-oriented activities often result in direct or indirect negative impacts on environment and society (Arnold and Williams 2012). Limiting profit targets for firms is suggested as a possible way to balance economic revenue growth and social value creation (Schrader et al. 2012).

Cost reduction is addressed in 32 papers which cover different cost categories including operating costs (Schuster and Holtbrügge 2012), service costs (Karamchandani et al. 2011), transaction costs (McMullen 2011), research costs (Hudnut and DeTienne 2010), controlling costs (Vachani and Smith 2008), or distribution costs and life-cycle costs (Ray and Ray 2011). From a firm's point of view, decreasing costs results in greater profits. From a BoP consumer-focused perspective, lowering costs allows the firm to offer its products and services at a lower price and, thus, increases the affordability of the poor who as a consequence can purchase more goods from their available incomes (Karnani 2007). Lowering costs during the product innovation process (Ray and Ray 2010) and pursuing standardization and specialization of business operations (Karamchani et al. 2011) are suggested as success factors for business in BoP markets (London and Anupindi 2012).

Growth is addressed in 22 publications in terms of (A) increasing a firm's market share or sales (11 papers) or (B) improving the macroeconomic situation of a country or society (6 papers), while 5 publications promote both (A and B) through an inclusive approach. As developed world markets are saturated, turning to emerging economies has become pivotal for firms' future growth (London and Hart 2004)

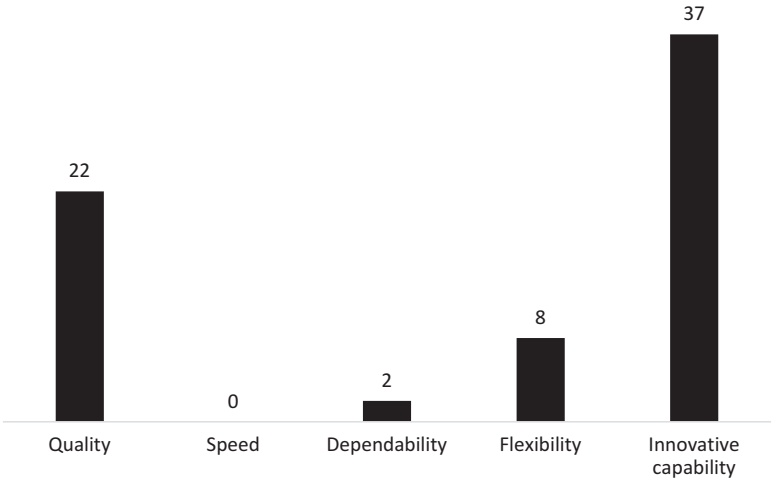

Fig. 14.2 Occurrences of nonfinancial categories

which can be achieved by successful partnerships with local partners at the BoP (Arnould and Mohr 2005). Such alliances enable cost advantages, foster innovation, and facilitate knowledge transfer (Kaplinsky 2011; Murphy et al. 2012). In addition to a firm's growth, including the previously excluded poor in the SC by granting access to market and resources creates jobs and employment (Van Sand and Sud 2012; Halme et al. 2012). Furthermore, micro-entrepreneurial activities and micro-franchising stimulate economic growth at the BoP (Kistruck et al. 2011; Visvanathan et al. 2012).

Nonfinancial Categories of the Economic Dimension

Among the nonfinancial categories of the economic dimension as depicted in Fig. 14.2, innovative capability is most often addressed (37 papers). Engaging in BoP markets requires the development of sustainable products tailored for the unique circumstances of the BoP, and not simply cheaper top of pyramid products (Nakata and Weidner 2012; Ramani et al. 2012). Nevertheless, even the best product innovation is worthless, if not supported by an effective business model (Chesbourgh et al. 2006), e.g., regarding distribution innovativeness or marketing strategies. In 23 out of 37 papers, a strong connection between innovative capability and profitability has been identified, justified mainly by cost innovativeness. Besides, environmental performance and innovative capability are described as complementary (Hart and Dowell 2011). Furthermore, 34 publications demonstrate that innovation has profound effects on social change and is thus an important driver for sustainable social development as well (Hall et al. 2012).

Quality, addressed in 22 papers, mainly deals with the sacrifice of product quality in return for low prices, making products more affordable and enabling BoP

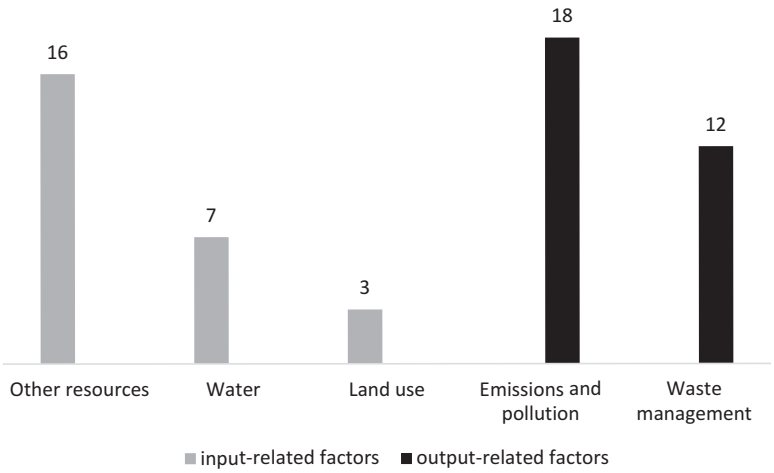

Fig. 14.3 Occurrences of environmental categories

consumers to purchase more with their little incomes thereby leading to firms' business success in BoP markets (Ray and Ray 2011). Standardization and specialization or the establishment of sustainability standards in terms of quality norms can support the protection of BoP consumers (Karamchandani et al. 2011) but also can represent significant barriers for the entry of poor producers into a SC (Perez-Aleman and Sandilands 2008). Quality improvement is needed (see, e.g., Schrader et al. 2012; Visvanathan et al. 2012) as well as regular quality control and the exclusion of non-compliant actors from international markets (Weidner et al. 2010).

Flexibility, addressed in eight papers, is necessary to be successful in the dynamic and complex BoP markets (Hill 2010). Flexible diversity in terms of product offerings and segments served can increase sales and reduce business risks, and, moreover, organizational flexibility can support the innovation process (Halme et al. 2012).

The remaining two nonfinancial factors, dependability (two papers) and delivery speed (not mentioned), are hardly addressed, probably because BoP business development has not yet reached a stage allowing it to work on strategies to optimize the distribution but still rather deals with missing distribution channels.

14.5.1.2 Environmental TBL Dimension

As illustrated in Fig. 14.3, the environmental dimension shows a balance of input- and output-related ecologic factors (26 occurrences vs. 30 occurrences).

Output-related environmental categories are often addressed in a generic way, e.g., by referring to pollution or gas emissions without giving any further concretizations. Schrader et al. (2012) put "emission" in concrete terms of CO_2 emissions

and, thus, represent an exception from the rule. Environmental efficiency is achieved by minimizing pollution and gas emissions (Kaplinsky 2011), as addressed in 18 papers. Pollution increases by worldwide population and urban industrialization. At the BoP, pollution is mainly caused by transportation and by cooking with biomass (Hudnut and DeTienne 2010), while from business' side, profit-seeking multinational companies (MNCs) degrade the natural environment and, thus, socially harm the poor (Arnold and Williams 2012). Pollution prevention is enabled by proactive environmental strategies to minimize process waste and to enhance resource productivity (Hart 2005). Furthermore, environmental reporting and life-cycle assessment (LCA) help mitigating the environmental impact of a firm's products (Olsen and Boxenbaum 2009).

Waste management, addressed in 12 papers, comprises waste disposal, recycling, and reuse. At the BoP, appropriate waste management systems are missing, and, thus, a lack of control over waste generation and inadequate disposal of waste lead to severe environmental burdens and harm to health (Seelos and Mair 2007). The burning of waste is a characteristic of emerging economies (Hudnut and DeTienne 2010). Waste can be reduced by retrofitting and increasing repair rates (Ray and Ray 2010). Moreover, firms could strongly reduce generated waste by modifying production processes (Schrader et al. 2012). In contrast, single sized packaging concepts, the simplest way to increase the affordability of the poor (Karnani 2007; Rivera-Santos and Rufin 2010), result in more waste. However, the proliferation of single size packages has been adopted by many firms (Rivera-Santos and Rufin 2010).

Input-related environmental factors are hardly concretized. Water and land use are comparably seldom mentioned (7 papers and 3 papers), and input factors such as raw materials or fossil fuels are summarized as "other resources" (16 papers). Biomass is the only resource to be concretely addressed. It represents a comparably cheap fuel which is widely consumed by the poor and, thus, becomes an economic-environmental issue. Moreover, inefficient energy conversion methods and unsustainable harvesting link biomass to the social category of health (Sesan et al. 2013).

14.5.1.3 Social TBL Dimension

As illustrated in Fig. 14.4, the occurrence frequencies of SC-internal and SC-external social factors shows a wide spread.

Insufficient infrastructure represents the most often addressed social factor (44 papers). Examples comprise irregular water and electricity supply or missing roads which lead to fragmented market structures and high costs of serving BoP markets (Ray and Ray 2010, 2011) as well as inefficient market infrastructure (Schuster and Holtbrügge 2014) and defective IT infrastructure which have a huge impact on BoP structural characteristics (Rivera-Santos and Rufin 2010). Companies must serve BoP markets with business models that are resilient to poor or nonexistent infrastructure (Hill and Mudambi 2010). Examples for such business models are micro-entrepreneurial activities (Visvanathan et al. 2012), e.g., poor women from rural

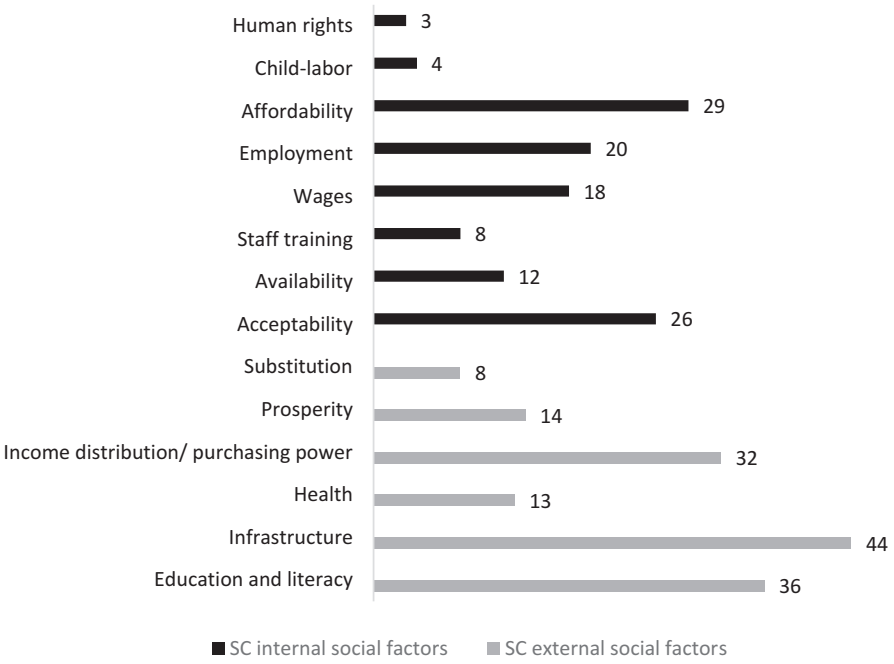

Fig. 14.4 Occurrences of social categories

Brazil who sell Avon's beauty products directly to BoP consumers (Hill and Mudambi 2010), or MNCs that develop new supply and distribution networks, e.g., Nestle's local collection centers for refrigerated milk in reach of farmers in rural BoP areas (Pervez et al. 2013).

Moreover, missing education and low literacy rates, as addressed in 36 papers, are huge barriers for firm's engagement at BoP and detriments of the poor (Berger and Nakata 2013). Lack of education and illiteracy limit a BoP consumers' ability to assess products and services offered by any kind of intermediaries (Ramani et al. 2012), and vulnerability of the poor is a consequence of the lack of education and information and also of missing self-control (Karnani 2007). Thus, MNCs need to set educational programs for illiterate BoP members to make them successful as suppliers, entrepreneurs, and buyers (Hill 2010). Education and literacy in the Brazilian tourism business represents one example (Hall et al. 2012).

Income distribution and purchasing power is addressed in 32 papers, mainly in context to the BoP definition (Karnani 2007), to poverty as the inability to consume (Subrahmanyan and Gomez-Arias 2008), to social issues such as affordability and substitution, or to economic criteria such as cost and profit. Purchasing power can be increased either by growing income, e.g., through the provision of microloans or by increasing wages, or by offering subsidized/cheaper products, e.g., by products that are affordable for the poor and that meet their needs (McMullen 2011). The income distribution at BoP is affected by seasonality, temporality, and regional

variances due to self-employment and employment in informal sector (Ramani et al. 2012). Income disparities characterize the BoP and represent a major challenge for successful industrialization and global integration (Hall et al. 2012). Income disparities are relevant for product innovation, in particular for affordability and acceptability of products (Ray and Ray 2011). Income constraints and low purchasing power of BoP consumers can be tackled by enabling employment opportunities for the poor as producers and suppliers which not only enrich the social life but also increase income and purchasing power (Seelos and Mair 2007).

The remaining SC-external factors are related to prosperity (14 papers), health (13 papers), and substitution (8 papers).

In context to sustainable development at the BoP, prosperity is linked to poverty alleviation programs. Such programs can degenerate into global charity which neither improves the livelihood of the poor nor brings any long-term economic benefit (Ansari et al. 2012). In contrast, integrating the poor into the SC of business seeking firms enables a sustainable development, and, therefore, self-reliance, freedom, self-respect, and responsibility are essential for prosperity and wealth creation (Chatterjee 2014). In addition, increasing the prosperity by a strengthened purchasing power improves the livelihood (Pervez et al. 2013).

Health addresses the lack of medical care, malnutrition, and secure housing as well as social deprivation provoked by stress, anxiety, and uncertainty (Nakata and Weidner 2012). Moreover, waste and odor, leaking and polluted water resources, or diseases caused by gas emissions represent health issues at the BoP that link the social and the environmental dimensions of the TBL (Seelos and Mair 2007).

Substitutive behavior can help the poor overcome their limited purchasing power, but it also can disrupt the social harmony, because branded products such as skin whitening beauty cosmetics are expensive substitutes (Karnani 2007; Ansari et al. 2012). Thus, the fundamental question if business involvement at the BoP creates or destroys social well-being is not yet answered.

In general, the SC-internal social categories are less often addressed than external ones, because external factors such as poor infrastructure and low education form major barriers that prevent firms from investing into business at the BoP. However, SC-internal social issues are not of subordinate importance for SSCM at the BoP.

Affordability, the most prominent SC-internal social factor (29 papers), emphasizes that the opportunity to buy more does not imply the ability to afford more (Ansari et al. 2012). This category clearly splits the opinions of scholars, as exemplified at the concept of single size packaging, which is advocated by some scholars and heavily criticized by others because affordability can only be increased by reducing the price per use and not by small packaging (Arnold and Williams 2012). Furthermore, micro-credits do not improve affordability because affordability is improved by growth and employment at reasonable wages (Karnani 2007), by lower costs (Ray and Ray 2011; Vachani and Smith 2008), or by intelligent pricing mechanisms (Schrader et al. 2012).

Issues related to acceptance of products and business are in focus of 26 papers. Hosting societies have to accept products and business in order to achieve poverty

alleviation. Product acceptability depends on affordability, functionality, and resale value (Ray and Ray 2010, 2011). Hudnut and DeTienne (2010) explain the relevance of acceptability at the example of emission-reduced motorcycles, a technological innovation that meets various TBL objectives but, however, remains unaccepted by the poor due to their lack of willingness to pay for cleaner air. This example exemplifies that need and acceptance of BoP societies are prerequisites of successful innovations. An appropriate marketing in subsistence markets is necessary to achieve business acceptability at the BoP (Webb et al. 2010; Weidner et al. 2010).

Employment, addressed in 20 papers, and wages, reflected in 18 papers, represent two closely related SC-internal social issues which both improve living standards, public health, and life expectations and also decrease illiteracy, fertility rates, and child labor (Ahlstrom 2010; Ansari et al. 2012). Moreover, employment and wages make basic resources such as education accessible and, hence, help alleviate poverty (Arnold and Williams 2012). Due to informal market structures and lack of formal employment, BoP communities show high self-employment rates (Kistruck et al. 2011) which makes the integration of BoP markets into global economy difficult (Hall et al. 2012). Employing the poor as workers often positively influences social inclusive growth at the BoP (Gino and Staats 2013; Hall et al. 2012). In contrast, low income forces BoP producers to use low-quality inputs and, as a consequence, to generate low-quality outputs which in turn limit the income and, thus, the input quality, the productivity, and ultimately the ability of poor producers to participate in global SC (London et al. 2010).

The availability of products and information is content of 12 papers. Based on information on product and manufacturing practices, poor producers can make better-informed decisions about product pricing and quality practices. Information can limit the exploitation of poor farmers by intermediaries, who buy cultivated products at a very low price and sell them at considerably higher price, and, thus, empower BoP producers (Arnold and Williams 2012). Moreover, information flow and transparency link supply and demand and, thus, help bridging the gap between MNCs and the BoP (Reficco and Marquez 2012). Product availability is influenced by the poor road infrastructure and distribution challenges in fragmented BoP markets (Ray and Ray 2011).

The dominant idea behind staff training, considered in eight papers, is to provide skills and information to employees and to suppliers, producers, and entrepreneurs at the BoP (Parthasarathy 2010; Karamchandani et al. 2011; London and Anupindi 2012).

SSCM research seldom elaborates on child labor, considered in four papers, or human rights, discussed in three papers. The lack of labor law enforcement is the main reason for human rights violation and child labor in subsistence BoP markets (Mena et al. 2010). Adequate policies are needed to protect human rights and to eliminate child labor (Hall et al. 2012). Moreover, social and environmental norms or sustainability standards can make global SCs accessible for poor producers (Perez-Aleman and Sandilands 2008). However, communities first have to understand the movement against child labor before it can be eliminated (Mena et al. 2010).

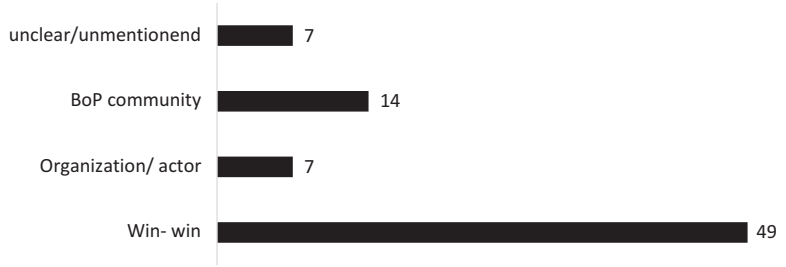

Fig. 14.5 Frequencies of defined beneficiaries from BoP business ventures

14.5.2 BoP Context

The occurrences of defined beneficiaries from BoP business ventures as depicted in Fig. 14.5 show that win-win situations between various involved groups are most often detected (49 papers). In contrast, benefits of BoP community through the presence of MNCs in subsistence markets (14 papers) or gains of firms or their shareholders without consideration of advantages for the BoP community (7 papers) are less often found in the paper sample. Finally, seven papers that focus on social issues like human rights and child labor or environmental aspects do not mention any benefit from business at the BoP.

Financial interest is the main motivation for western firms to engage in rapidly growing BoP markets which provide new business opportunities in an era of globalization and saturation of traditional markets (Arnould and Mohr 2005; Bardy et al. 2012; Nakata and Weidner 2012). To leverage these opportunities, products and services need to be tailored for BoP markets (Ray and Ray 2010), and mutual value creation under consideration of financial and social objectives is crucial for poverty alleviation through profits (London et al. 2010). Thus, MNCs have to strive for an environmentally and socially sustainable development (Olsen and Boxenbaum 2009) and should improve their image and reputation (Schrader et al. 2012). Innovative products for BoP markets combine sustainable corporate growth and social responsibility and, hence, alleviate poverty and generate social inclusion (Hudnut and DeTienne 2010; Reficco and Marquez 2012). Furthermore, empowering the poor with information, literacy, and market access at lowered costs prevents from exploitation by suppliers and intermediaries (Vachani and Smith 2008; London and Hart 2004).

14.5.3 Triggers of Sustainability

According to Seuring and Müller (2008), sustainability activities are triggered by governmental agencies, customers, and other stakeholders. In this analysis, sustainability triggers are categorized as pressures, which include barriers, or incentives.

Table 14.5 Occurrences of sustainability influences of different stakeholder groups

	Pressures and barriers	Incentives	∨
Government	28	20	41
Customer	33	25	40
Other stakeholders	24	52	59
∨	58	67	73

As shown in Table 14.5, nearly all reviewed manuscripts reflect sustainability triggers (73 papers). In general, slightly more interest is given to incentives for sustainability (67 papers) than to sustainability pressures and barriers (58 papers). Customers (40 papers) and governmental authorities (41 papers) represent two important sustainability trigger groups, although most studies elaborate on sustainability influences of other stakeholders (59 papers).

In the following, sustainability influences of different stakeholder groups are assessed in greater detail.

14.5.3.1 Pressures and Barriers

Table 14.5 exemplifies that pressures and barriers of sustainability are more often related to customers (33 papers) than to government (28 papers) or other stakeholders (24 papers).

Customer influences are often related to high affordability which in turn is caused by existing income constraints at the BoP (Seelos and Mair 2007; Ramani et al. 2012; Van den Waeyenberg and Hens 2012) and limits the product demand in low-income countries (Kaplinsky 2011). In this context, usage and penalization of low quality is to be mentioned (Perez-Aleman and Sandilands 2008). Furthermore, behavioral aspects of buyer-seller relationships, in particular "side-selling" of suppliers (Karamchandani et al. 2011), opportunistic intermediaries (Kistruck et al. 2013), or the "sitting back" as potential micro-franchisees behavior (Kistruck et al. 2011), are mentioned. Moreover, lacking education and high illiteracy rates represent barriers that require investments into education and training to implement sustainable business at the BoP (Schuster and Holtbrügge 2012). However, BoP communities receive donations more often than investments (Reficco and Marque 2012), and some BoP members obtain more benefits from sustainable business than others (Ansari et al. 2012).

Governmental aspects are often related to corruption, policy uncertainty, and the absence of governmental regulations (Arnould and Mohr 2005). Firms depend on policies, e.g., favorable tax structures and bankruptcy laws (Webb et al. 2010), and support from governments who, for instance, could enable substantial investments into the infrastructure (Ray and Ray 2011). However, missing institutional stability and governmental instability hinder investments and sustainable development at the BoP (Hill and Mudambi 2010; Arora and Romijn 2012). Governments that refuse to

take responsibility for social inclusion and legal authorities that fail to protect BoP members and their rights in business also hamper the realization SSCM at the BoP (Hill 2010; Arnould and Williams 2012; Hall et al. 2012). The inability of governments to ensure human rights (Mena et al. 2010), property rights (McMullen 2011) and informal rules that replace legal obligations (Ray and Ray 2010) is considered as obstacle to a sustainable development. Moreover, MNCs need to be careful when competing with local firms that are connected to local politicians (Rivera-Santos and Rufin 2010).

Other stakeholders that put pressures include the Central Bank (Berger and Nakata 2013) and NGOs (Karamchandani et al. 2011) and also strong informal, normative, and cognitive institutions (Rivery-Santos et al. 2012). Cultural distance between business partners in the SC and stakeholders can lead to misunderstandings and hamper the establishment of sustainable business relationships (Tashman and Marano 2009). Institutional distance and intraorganizational barriers limit the transferability from traditional developed markets to BoP markets, and other stakeholders involved in business may show objection because of additional costs of sustainability goals (Van Sandt and Sud 2012).

14.5.3.2 Incentives

Other stakeholders, including communities, religious groups (Schuster and Holtbrügge 2012), nonprofit organizations (NPOs), and NGOs, represent the dominant category in this dimension (52 papers). Other stakeholders enhance a firm's ability to identify and exploit entrepreneurial opportunities (Hall et al. 2012: 790) which in turn provides synergies from which firms and BoP communities may benefit. Firms reflecting social and environmental criteria can achieve mutually defined sustainability targets in cooperation with uncommercial partners that provide information on local market conditions, support projects, or give political advice (Hahn and Gold 2014). However, partners need to have an appropriate context-specific knowledge in order to positively influence the business development (London and Hart 2004). Partnerships with NGOs can help firms gathering information on the needs of the poor (Van den Waeyenberg and Hens 2012), gaining knowledge about social structures (Hill 2010), meeting consumers' needs through joint development (Schuster and Holtbrügge 2014), and extending the firm's reach in complex and fragmented BoP markets (Karamchandani et al. 2011) at lower risks and uncertainties (Reficco and Marquez 2012). Besides, firms can reach a greater efficiency when partnering with, e.g., micro-finance institutions (Hudnut and DeTienne 2010). NGOs can fill existing institutional gaps at the BoP and can financially and technically support the poor to implement standards that are required for a sustainable business development in BoP communities (Perez-Aleman and Sandilands 2008; Rivera-Santos et al. 2012). NGOs can help building trust between firms and impoverished BoP entrepreneurs, suppliers, and producers (Schrader et al. 2012). However, alliances with NGOs are complex and, thus, should be treated with caution,

especially because incompatible goals may even lead to alliance failure (Webb et al. 2010).

Governmental incentives for sustainable business at the BoP (20 papers) enable a sustainable development in the least developed countries (Ansari et al. 2012). Legal authorities can ensure the institutional protection against unpredictable changes of regulations (Rivera-Santos et al. 2012) and enable adequate policies and investments that are favorable to sustainable business (Karnani 2007; Seelos and Mair 2007). Governmental organizations can help a firm to adhere to the institutional environment at the BoP (Schuster and Holtbrügge 2014) and to reduce its distance to the BoP communities (Van den Waeyenberg and Hens 2012) which leads to positive impacts on society and business outcomes (Viswanathan et al. 2009). Governmental agencies can cooperate with NGOs, e.g., national aid agencies (Ramani et al. 2012), to improve the infrastructure and to tackle basic social issues (Gold et al. 2013) and ultimately to support the creation of domestic markets (Parthasarathy 2010).

Customers' incentives for sustainability are reflected in 25 papers. Customers need to be centered in development processes (VanSandt and Sud 2012), because cooperation between firms and the poor can support innovators in meeting the needs of the BoP population (Halme et al. 2012). Combining local knowledge with latest technology enables the creation of an economically sustainable and profitable business model (Hill and Mudambi 2010; Pervez et al. 2013).

14.6 Concluding Remarks

The results of the content analysis presented in this chapter inform about insights and gaps of SSCM research in BoP context.

The establishment of businesses in BoP markets is generally justified by the potential economic and social benefits for firms that make profit and hosting societies that alleviate poverty. Next to profitability, innovative capability represents an important economic category. In contrast to barely addressed environmental aspects, the social categories related to, e.g., infrastructure, education, literacy, and affordability dominate literature on SSCM at the BoP. Hence, integrating all three TBL dimensions of sustainability remains a huge challenge, due to (real or perceived) trade-offs between economic, environmental, and social sustainability objectives.

Requirements of BoP consumers do not necessarily have a positive influence on business sustainability. Low purchasing power and the resulting inability to consume hinder the sustainable development of BoP markets. In addition, weak formal institutions, missing governmental regulations, and corruption prevent from establishing sustainable business at the BoP. However, NGOs and other stakeholders provide firms with valuable information on the structure and the needs of BoP markets and, thus, can stimulate and strengthen sustainability at the BoP.

SSCM at BoP represents a young and highly promising field of research which offers large potential to develop a strong theoretical basis. Future research streams

should focus on the advantages and benefits of SSCM, enable the creation of win-win-win situations, and support the development of collective solutions for poverty alleviation. Indeed, environmental sustainability as well as the high contemplation of social sustainability issues needs to be considered in theory and practice. Extending BoP theory toward the simultaneous consideration of economic, environmental, and social sustainability would support SSCM theory development.

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