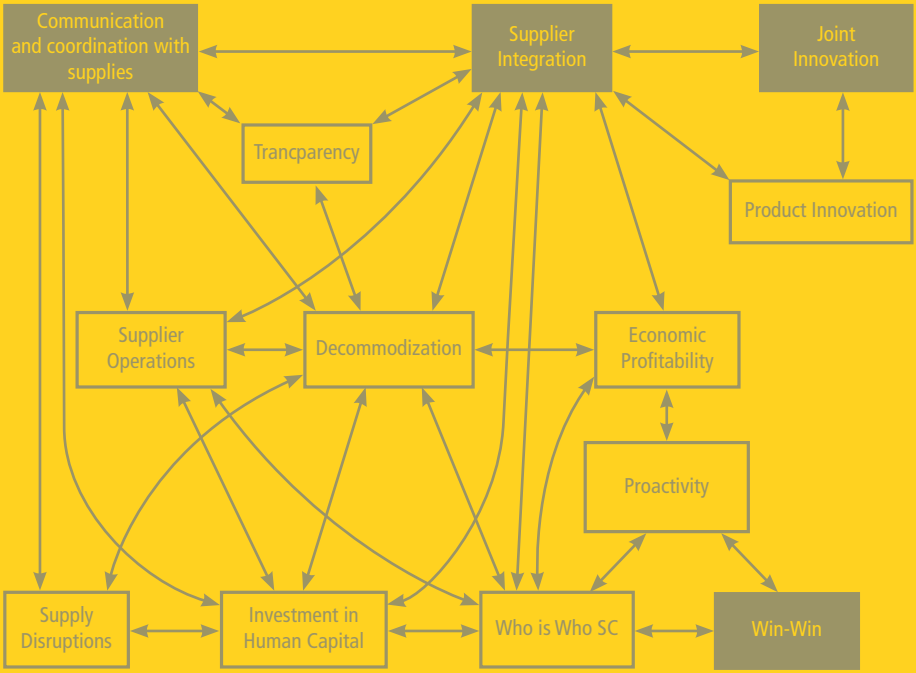
Raja Usman Khalid

(Sustainable) Supply Chain Management at the Base of the Pyramid



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1st Supervisor: Prof. Dr. Stefan Seuring
2nd Supervisor: Prof. Dr. Juliana Hsuan
3rd Supervisor: Prof. Dr. Ralf Wagner

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II. Table of contents

III. List of tables

IV. List of figures

V. List of abbreviations

BoP	Base of the pyramid
MNCs	Multi-national corporations
SCM	Supply chain management
SSCM	Sustainable supply chain management
(S)SCM	(Sustainable) supply chain management
RDT	Resource dependency theory
B2B	Business-to-business
B2C	Business-to-consumer

2. Introduction

2.1. Theoretical background and research objectives

Through their seminal work Prahalad and his colleagues made an effort to show the multi-national corporations (MNCs) yet another potentially lucrative market to compensate for the evident saturation in their traditional business districts. The slow growth trends of formal markets of developed world in the last couple of decades, demands MNCs to come out of their comfort zone and explore new business avenues to satisfy their growth needs. The call of Prahalad in such a scenario seemed a timely invitation to MNCs to start considering the largely uncharted territory of informal markets as their future business venue. Developing countries with their informal markets have long been considered by MNCs inappropriate for their commercial activities either because of high costs involved in doing business or feeble purchasing power of respective customers. The likewise developing world related dogmas have not only kept big businesses to start commercial activities in informal markets but has also contributed towards obstructing development of respective regions. The BoP scholars unanimously consider large bulk of global populous as participants of informal markets "who are generally excluded from current system of global capitalism" (Hart, 2010; London and Hart, 2011). Unfortunately, this greater part of mankind being dependent on informal markets to fulfil their daily needs also constitutes the very bottom of world income pyramid. Prahalad and his colleagues in their seminal work therefore refer to informal markets of developing countries and their participants as *base of the pyramid* (BoP).

The very premise of the extent thesis of Prahald and colleagues is development of BoP by fostering business activities in which MNCs can play a decisive role. BoP researchers consider the underdevelopment of BoP as a consequence of insufficient commerce related activities in respective markets. The concerned scholars have therefore proposed that the MNCs by starting their business operations in BoP can not only harness fruits of unsaturated markets but can also help elevate underdevelopment of respective geographical regions. "Ingrained in notion of inclusive capitalism", BoP literature argues for an enterprise-driven strategy for creation of economically viable business models to kick start economic activity in sluggish markets of BoP (Ansari *et al.*, 2012). The BoP business notion has gradually developed from a consumer oriented (Ahlstrom, 2010) through a producer oriented (Agnihotri, 2013) to a partner oriented (Simanis *et al.*, 2008) inclusive business domain. Over the years of its gradual progression BoP literature remained occupied either with papers problematizing the BoP case or case studies showcasing viable business models (Kolk *et al.*, 2014). However, the BoP scholars have time and again tried to draw attention towards lack of sound theoretical foundations to develop the BoP research further (Ansari *et al.*, 2012).

Some of the studies have highlighted certain analogous concepts in (sustainable) supply chain management ((S)SCM) and BoP related literature (Gold *et al.*, 2013). Issues like supply chain partner development, collaboration, stakeholder management, creating win–win scenarios, technological and logistical integration, innovation and learning, which are core constructs in theories of (S)SCM (e.g., Chen and Paulraj 2004; Vachon and Klassen 2006; Seuring and Müller 2008; Pagell and Wu 2009; Beske and Seuring 2014; Yawar and Seuring 2015), also constitute the essence of the BoP debate (Prahalad 2012; Silvestre and e Silva Neto 2014; Vachani and Smith 2008). While (S)SCM research can potentially provide viable answers to

certain challenges faced by BoP scholars a research gap is evident since "… current research on the interface between supply chain management and BoP business operation is lacking" (Gold *et al.*, 2013).

Some of earlier studies have identified the evident research gap and thereby tried to inculcate the two research streams. For example, Vachani and Smith (2008) have elaborated on logistics related issues in BoP, Sodhi and Tang (2011, 2014) tend to employ a more traditional supply chain management perspective to examine supply chain issues in emerging economies and Gold *et al.*, (2013) sought to incorporate sustainability concepts in BoP supply chains. However, while focusing either on more traditional or sustainable supply chain management perspectives at a time no notable contribution has employed a holistic (S)SCM approach to advance the BoP agenda further. While the researchers acknowledge the differences among the supply chains serving BoP and developed markets on account of two main reasons i.e. (1) dealing with "large number of small transactions" in BoP (2) ensuring fair distribution of surplus among disadvantaged supply chain actors (Sodhi and Tang, 2014, 2016). However, effort has yet to be undertaken to analyse BoP on rigorous scientific lines in context of current (S)SCM understanding.

We would also like to highlight that the contemporary BoP literature is focused at business-to-consumer (B2C) issues. The extent BoP literature comprising mainly of case studies and conceptual articles (Kolk *et al.*, 2014) seemed influenced by the original consumer oriented perspective of BoP. Though the BoP concept has gradually evolved into more business oriented narrative, business – to – business (B2B) issues seemed understudied in the respective literature. By focusing B2B business environment this dissertation also attempts to bring the related issues into the light of scientific inquiry.

Despite of certain reported commonalities among the two research streams, explicit research establishing applicability of contemporary (S)SCM concepts in BoP remains scarce. The unique nature of BoP business environment and respective societies demands a careful scrutiny of the current (S)SCM literature primarily developed in context of formal markets of developed economies. The evaluation of the respective supply chain knowledge can help provide the fast evolving narrative of BoP with much demanded theoretical foundation to build upon further. Furthermore, it will help establish the extent to which the current supply chain literature can be used to analyse, govern and improve efficiency of BoP supply chains on sustainable basis.

In such a scenario this dissertation is an effort to bridge the research gap evident at (S)SCM – BoP interface. The core research question of the dissertation thereby can be narrated as:

How can (S)SCM theory can be integrated into the BoP research stream?

In order to thoroughly investigate the research question, the systematic assessment of (S)SCM and BoP related literature followed by an empirical evaluation of the respective findings, has been undertaken and is presented in this dissertation. The dissertation will thereby contribute to the theoretical infrastructure of the BoP business domain in general and respective supply chains in particular. Furthermore, the study will also contribute towards further enriching the current supply chain management understanding by incorporating an informal market perspective in primarily formal market oriented research domain. The research will also provide (S)SCM and BoP practitioners with management tools to assess and improve efficiency of B2B supply chains in informal markets.

The research objectives of the study are specified as:

1. To explore which of the contemporary (S)SCM concepts are part of traditional BoP literature.
2. To enrich the theoretical basis of BoP by analysing the use of established (S)SCM constructs in BoP related literature.
3. To empirically analyse relevance of the respective (S)SCM constructs in B2B business domain of BoP.

2.2. Structure of the dissertation

In line with the question under investigation and research objectives, the dissertation can be divided into two distinct parts. The first half of the thesis (two papers) presents the desk research, while the empirical part of the research (two papers) is presented in the second half of this dissertation. The dissertation is therefore a cumulative thesis comprising four research articles. Each of the research papers is presented in this dissertation as a separate chapter. Chapter 2 and 3 of this dissertation are composed of two papers presenting the desk research undertaken, while chapters 4 and 5 present two papers on empirical findings of the study.

Chapter 2 and 3 of the thesis titled as *putting sustainable supply chain management into base of pyramid research* and *analysing base of the pyramid research from a (sustainable) supply chain perspective* respectively constitute the desk research part of this study. A sample of 77 published BoP papers were collected from *web of science* and coded against (S)SCM frameworks developed by Chen and Paulraj (2004), Seuring and Müller (2008), Carter and Rogers (2008), Pagell and Wu (2009) and Beske and Seuring (2014). A frequency and contingency analysis was used later on to calculate not only the number of occurrences of particular (S)SCM constructs in sample BoP literature but also to explore their paired interrelations. Based on the results of the literature review, supply chain management focused and sustainable supply chain management focused research models were developed. The respective models signify how the related (S)SCM constructs are used in the BoP literature. The results of the literature review thereby led to identification of (S)SCM constructs considered by BoP researchers as more relevant to BoP business environment. The two chapters tackle with the first two research objectives of the study and attempt to enrich theoretical basis of BoP related literature by integrating relevant (S)SCM concepts in the respective debate.

Chapter 4 of the dissertation titled as *supply chain practices influencing firm's purchasing performance in base of the pyramid* presents the quantitative results of empirical part of the research. The respective (S)SCM constructs identified in the desk research were empirically tested for their relevance for purchasing performance of indigenous micro-entrepreneurs of BoP. In line with proponents of inclusive business models in BoP and while considering purchasing activities imperative for seeking the development objective, this chapter tries to explore the operational dynamics of BoP supply chains propelling indigenous firm's purchasing performance. By employing regression analysis and argumentation developed under the banner of resource dependency theory the chapter attempts to identify and discuss (S)SCM practices significantly effecting purchasing performance of indigenous micro-entrepreneurs of BoP.

Chapter 5 titled as *extending premium debate in BoP literature* presents the qualitative findings collected sideline of empirical research. Poverty premium viewed in context of B2B relationships is found to be a prevalent reality and negatively effecting business performance

of disadvantaged actors in BoP supply chains. Furthermore, while investigating buyer- supplier relationships from a resource dependency perspective the chapter investigates how the disadvantaged actor (mostly being the buyer in this case) remains on loosing edge. Deficient financial capital, scarce institutional support and per-need based purchasing strategy are identified as the core factors contributing towards eroding bargaining power of the micro-retailers (kiosks) in BoP.

Chapter 6 of the dissertation while presenting an overarching discussion attempts to summarise the main findings of the study in a wider (S)SCM – BoP context.

3. Putting sustainable supply chain management into base-of-the-pyramid research

The chapter presents an article published in Supply Chain Management: An International Journal by Khalid et al. (2015)

3.1. Structured Abstract:

Purpose

Base/Bottom-of-the-pyramid (BoP) projects address how companies contribute to fulfilling the needs of the poorest populations; increasingly, academics are applying theory to explain these projects. The need for integrating the BoP population into value-adding activities is widely acknowledged, but this is not yet reflected in supply chain management related concepts. The links to sustainable supply chain management (SSCM) are frequently mentioned but in a scattered manner. The aim of this paper is to analyze which SSCM arguments are addressed in BoP-related research.

Design/methodology/approach

The paper presents a structured literature review of BoP papers published between 2000 and 2014 in peer-reviewed, English-speaking journals available on Web of Science. A content analysis of BoP articles is conducted based on SSCM constructs from the framework of Beske and Seuring (2014).

Findings

The frequencies of SSCM constructs identified in the BoP papers indicate the prevalence of SSCM arguments in the BoP discourse. Technological integration emerges as the core SSCM practice frequently identified and is contingent with a number of other practices. Further SSCM practices including long-term relationship development, partner development, joint development, enhanced communication, learning, stakeholder management, and innovation have regularly been referred to and are considered important by respective BoP scholars. The contingency analysis shows significant correlations among various pairs of categories and allows us to point to major lines of related arguments.

Research limitations/implications

The paper offers insights into the potential links between the SSCM & BoP research streams and sets ground for further theoretical exploration of the subject. Limitations are the uptake of one particular conceptual framework, the selection of BoP papers for the review process, and

the interpretation of the frequency and contingency analysis. The paper offers a foundation for developing a research stream where BoP-related issues are integrated into research on (sustainable) supply chain management.

Practical implications

Supply chain management has many practical applications, which help to establish and improve supply chain design and operations. This would benefit BoP projects and should improve their practical outcomes. The relevance of technological integration seems straightforward but needs a lot of effort to be implemented in each single project.

Social implications

BoP-related research has gained increasing attention in recent years and should help drive the global sustainable development agenda further in the respective geographic locations. Establishing capable supply chains that deliver sustainable outcomes will be at the core of such projects. This paper highlights fundamental practices for firms targeting BoP markets with an effort to alleviate poverty.

Originality/value

The paper applies SSCM theory to analyze BoP issues and thereby interlinks the two research streams. Until now, research amalgamating the two concepts has been disconnected. Therefore, by providing an overview of existing publications, more focus for future studies is created, which is valuable and necessary for advancing both fields. Additionally, assessing BoP-type projects in low-income countries will allow the SSCM agenda to look beyond what is so far typically researched.

Keywords: Supply Chain Management, Sustainability, Base of the Pyramid, Literature Review, Content Analysis, Technological Integration.

Article Classification:

Literature Review

3.2. Introduction

The original consumer-oriented Base of the Pyramid (BoP) perspective (Prahalad and Hammond, 2002), mainly arguing for addressing poverty by taking the BoP population as potential consumers of products and services of multinational corporations (MNCs), has been criticized by proponents of a more producer-oriented BoP perspective (e.g. Karnani, 2007; Gold *et al.*, 2013). The producer-oriented BoP perspective suggests considering people at the BoP as potential producers and thus devising appropriate strategies to integrate the poor in the value-generating supply chain activities by developing their capabilities (London *et al.*, 2010), which links well into the management of social issues in supply chains (Yawar and Seuring, 2015). Although the producer-oriented BoP perspective is gradually establishing its footprint in academic research, scholars consider BoP 2.0 as a more appropriate strategy of poverty eradication, which asks for the sound and full integration of impoverished people in the value creation processes (Agnihotri, 2013; Arnold and Valentin, 2013; Chelekis and Mudambi, 2010; Reficco and Marquez, 2012). When dealing with BoP markets, businesses face significant challenges in the form of weak government institutions with poor market regulatory

mechanisms, lack of communication structures, and above all, the unique needs of the low-income consumers (Prahalad and Hammond, 2002, 2006; Rivera-Santos and Rufin, 2010; Rivera-Santos et al., 2012). Applying the typical business logic and supply chain solutions do not offer appropriate results in emerging markets, as these do not cater to the needs of the BoP markets. Recently, researchers have called for more radical sustainable supply chains and argued for more innovative business strategies which would serve as win-win solutions for businesses (Wu and Pagell, 2011) and BoP markets (Ansari et al., 2012) in the form of poverty reduction. Moreover, as noted by Ansari et al. (2012), "BoP is still in a pre-paradigmatic state of development as an academic field." Hence, there is a need to create innovative business strategies and ingenious supply chain solutions that are adapted to the BoP business context, enabling firms to operate successfully in developing markets and play a role in alleviating the menace of poverty (London and Hart, 2004; Schuster and Holtbruegge, 2012).

This demands new or changed business processes for both conventional as well as sustainable supply chain management (Wu and Pagell, 2011) with a strong link into related social issues (Yawar and Seuring, 2015). This links into a statement by Halme *et al.* (2012), stating that "research on business solutions for poverty alleviation is still in its infancy, and therefore there is yet no coherent set of concepts." Little attention has been paid towards using instruments together with SSCM theory for analyzing the relevant issues in BoP research. This seems particularly valid as both research streams aim at achieving similar goals towards sustainable development, yet each is following its own path independently from the other. Serious effort has yet to be undertaken to establish sound theoretical links between the two management research streams.

Such a theoretical link will not only be an effort towards equipping the BoP with a coherent set of theoretical concepts but will also open new research frontiers for SSCM literature. In this regard, a pre-existing conceptual SSCM framework (i.e. Beske and Seuring, 2014) will be used to analyze and explore the relevant issues in BoP related publications. Therefore, SSCM provides the theoretical lens for assessing the BoP discourse by means of a structured literature review. We acknowledge that there are other suitable streams of research such as global commodity chain (GCC), global value chain (GVC; Gereffi *et al.*, 2005), and global production networks (GPN; see Coe *et al.*, 2008) that can give useful insights into sustainability issues. However, we have excluded this from our research. We see a similarity in SSCM and BoP approaches where a "firm" is usually the central unit of analysis, while this is not the case in the GPN and related approaches. The unit of analysis in GCC, GVC, and GPN approaches is either narrower and looks at the role of workers in a specific sector or wider industrial network and its spatial embeddedness. A particular goal is assessing the economic development (upgrading) in a total sector (Gereffi *et al.*, 2005). Finally, there is usually a strong element of governance in these approaches, whereas SSCM and BoP are more specific and emphasize the firms, its actions, and the impact on sustainability issues.

This particular paper has taken already established SSCM constructs and aims to uncover the theoretical links between the SSCM and BoP research streams. The aim of the paper is to analyze which SSCM arguments inherently have been taken up by BoP scholars in their publications thus paving the way for a comprehensive analysis and exploration of the BoP business issues using the tools provided by SSCM theory. Furthermore, the contingencies among the respective SSCM constructs/arguments in the BoP literature presented in the paper present the reader with a clearer picture of how BoP scholars see related core constructs working within the business environment of emerging economies.

The paper is structured as follows: The next chapter will introduce the basic terminology and concepts for BoP and SSCM. The following chapter details the research methodology employed to conduct the literature review. Analytical results of the literature review are presented in the third chapter of the paper. Analytical results are broadly categorized into two parts; the first is a compilation of frequency-related findings of the study while the second is a composition of contingency results of the research. Research limitations are presented in the fourth chapter of the paper accompanied by a comprehensive discussion. A brief conclusion is the last and concluding chapter of this article.

3.2.1. Basic terminology

The term base of the pyramid (BoP) originally coined by Prahalad and Hammond (2002) is an acronym of the phrase "base/bottom of the pyramid." The phrase itself refers to 4 billion people representing the bottom tier of the world income pyramid living on less than $9.05 per day. Moreover, 2.6 billion people living in moderate and extreme poverty comprise a subset of BoP population living on $2.00 per day or less (Arnold and Valentin, 2012). Regardless of drawing precise income lines, the argument stands firm that the BoP population is comprised of those who are "generally excluded from the current system of global capitalism" (Arnold and Williams, 2012). Though not being solely but mostly concentrated in the emerging economies of the world, people representing the BoP are mostly participants of informal market economies of developing countries. These markets are characterized by weak institutional frameworks, poor infrastructural facilities, geographical dislocation, lack of financial services, and a vibrant participation of low-income consumers with limited purchasing power (Hahn and Gold, 2014; Schuster and Holtbruegge, 2012). BoP theory advocates business co-venturing with the participants of informal market economies, i.e. the needy. "The key claim of the BoP concept is that poverty can be alleviated through financially profitable activity" (Kolk *et al.*, 2014). On the one hand, BoP theory considers local companies, mainly being small and medium sized enterprises (SMEs) of developing economies, to be best suited to kick-start the economic activity, always provided that the challenges obstructing the economic activity are addressed (Karnani, 2007). On the other hand, it also recommends MNCs to engage in the business activities of predominantly unexplored informal markets with billions of potential consumers by working in partnership for the co-creation of mutual value. This value creation is at the heart of operations and supply chain management and links into the social dimension of sustainability (Gold *et al.*, 2013; Yawar and Seuring, 2015). Hence, there is an almost obvious link to this body of literature asking for further research.

According to Seuring and Müller (2008) SSCM is defined 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, environment and social, into account which are derived from customer and stakeholder requirements." In line with principles of cooperation and coordination advocated by BoP theory (Schuster *et al.*, 2014; Rivera-Santos and Rufin, 2010; Schrader *et al.*, 2012), an additional link into SSCM is provided. According to this definition, SSCM not only considers cooperation among all the respective players as a cornerstone of a sustainable supply chain but also defines the ultimate objective of this collaboration to be the realization of goals of sustainable development (Pagell and Wu, 2009). Implicit in the definition is the consideration of aspirations of the community at large while devising supply chain strategy and delineating respective objectives.

Based on the SSCM definition, Beske and Seuring (2014) have developed specific constructs to discriminate sustainable supply chain from a conventional supply chain. The respective constructs or 'categories' and individual 'practices' (terms used by the developing authors) cover strategic, structural, as well as operational aspects of supply chains. The term category is used "as an umbrella term to group and sort the different practices and link them to relevant issues of SSCM and SCM respectively" (Beske and Seuring, 2014), whereas a practice is "the customary, habitual or expected procedure or way of doing something" (Beske and Seuring, 2014). A brief description of the categories and practices is presented in *Table 1*. We avoid repeating the framework and only show this later in line with the findings in *Figure 6*.

As the SSCM framework covers the constructs and their interrelations, starting from the strategic orientation level through the structural and design aspects to the process and operational part of a respective sustainable supply chain, the framework can strongly serve as the foundation of this paper.

Admittedly, only considering this particular framework has its limitations, but the framework includes many aspects that other notable conceptualizations propose and operationalize (e.g. Pagell and Wu, 2009; Gimenez and Tachizawa, 2012; Miemczyk *et al.*, 2012). Nevertheless, the paper serves as a first step towards the quest of investigating BoP business issues through the theoretical lens of SSCM. Additionally, (1) base of the pyramid strategies are seen as contributions to a sustainable development and (2) the particular framework emphasizes the step taken to yield such a sustainable development along a supply chain. Hence, there is a particular fit among these approaches, allowing a link to be made. While the framework serves as a deductive blueprint for the analysis, the worthiness of such an approach is justified with the inductive interpretation later in the paper, leading to meaningful insights.

Table 1: Overview of SSCM categories and related practices (Own illustration based on Beske and Seuring, 2014)

Categories	Practices	Description
Orientation	**1**. Dedication to triple bottom line (TBL) **2**. Dedication to supply chain management (SCM)	Concerned with the strategic values level of a supply chain, **orientation** calls for top-management support for integrating principles of **TBL** and a dedication towards **SCM** in the organization's strategy for reaching a competitive advantage.
Continuity	**3**. SC partner development (PD) **4**. Long-term relationships (LTR) **5**. SC partner selection (SEL)	Regarding the structure of a particular supply chain, **continuity** in line with other aspects of SSCM asks for developing **long-term relations** with a reduced number of selected **supply chain partners.** The practice intends to **develop** weak supply chain partners for increasing overall supply chain performance.
Collaboration	**6**. Enhanced Communication (EC) **7**. Technological integration (TI) **8**. Logistical integration (LI) **9**. Joint development (JD)	Situated at both structural and operational levels of a supply chain, this category encompasses actions encouraging **collaboration,** e.g. IT infrastructure for **enhancing communication**. Being one step further than cooperation and long-term orientation, this category involves more intensive interaction between supply chain partners, including practices like **technological** and **logistical integration** and the formation of cross-functional teams enabling **joint development**.
Risk Management	**10**. Standards and certification (CER)	In order to counter the risks associated with the adoption of sustainable practices in a supply chain,

	11. Selective monitoring (IM) **12**. Pressure groups (PRG)	the **risk management** category asks for the adoption of **standards and certifications** not only to **monitor** suppliers but also to answer the critiques of **pressure groups**. The category based at the operational level is imperative to averse the risks associated with higher dependability on a reduced number of suppliers.
Pro-activity Management	**13**. Stakeholder management (STM) **14**. Learning (LEA) **15**. Innovation (INN) **16**. Life-cycle assessment (LCA)	Companies engaged in sustainability are considered **pro-active** since they devise strategies at the operational level to **learn** about market requirements by actively engaging all the respective **stakeholders** in business operations to formulate **innovative** products. These innovative products are proactively envisioned with the possibility of recycling and reusing and thus include a **life-cycle assessment**.

3.3. Research methodology

Structured literature reviews are an important tool for managing the diverse knowledge base for an academic inquiry and allow for a summary and further development of the existing body of literature. As highlighted by Gray (2014, p. 98), "the literature review demonstrates the essential theories, arguments and controversies in the field and highlights the ways in which research in the area has been undertaken by others."

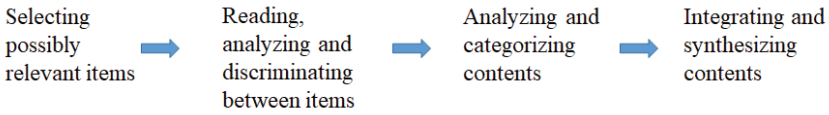


Figure 1: Literature review process (Hart, 2001, 2014)

A literature review can be defined as "a systematic, explicit, and reproducible design for identifying, evaluating and interpreting the existing body of recorded documents" (Fink, 2014, pp. 3). Following the literature review process proposed by Hart (2001), this particular study was carried out in four steps as shown in *Figure 1*.

It is crucial for a literature review to define clear boundaries to delimitate the research (Seuring and Gold, 2012). Defining boundaries of the research not only helps the researcher to stay focused on the objectives, but it also helps in the navigation while searching for relevant literature. The following boundary lines have been drawn and taken into consideration during the course of the review.

1. Only research articles in scientific journals using English as the prime language of publication were selected for review.
2. Being a comprehensive and easy to use research database, "Web of Science" (http://www.webofscience.com) was used as the source for searching and collecting respective articles. This is justified as all major academic journals are contained in the database. This might exclude some papers being published in new journals or smaller journals but should limit the overall number of papers being reviewed to a manageable amount.

3. The article search was carried out using two keyword groups: (1) “base of the pyramid” and (2) “bottom of the pyramid,” as both terms are used in related literature.
4. The search for the articles was made in the research domains of the Web of Science of “business and economics,” “social sciences and other topics,” and “operations research and management sciences.”
5. For the analysis presented here, only the published articles considering any of the SSCM categories and practices identified by Beske and Seuring (2014) relevant for BoP were included in the literature review.

Since following a structured approach while collecting the material for literature review and analyzing it afterwards is an imminent requirement of a systematic literature review, the following sub-sections will elaborate the first three steps of the literature review process (from *Figure 1*), thereby explaining the scheme of action followed while searching, collecting, and analyzing the relevant articles. The fourth and last step of the literature review process will be covered in the results section of the paper. The structured literature review has also its limitations in making some parts of the analysis appear somewhat mechanistic. We account for this by providing a rich set of details and examples in the later sections of the paper, where we reference many of the papers included in the literature analysis sample. This should balance the quantitative approach taken by a qualitative set of arguments.

3.3.1. Selecting possibly relevant publications

The selection of appropriate papers to be reviewed depends heavily on the aim of the particular literature review. Within the context of the specific aims of this study, the inclusion of the literature dealing with both SSCM and BoP issues at the same time was a viable option.
The initial search in three research domains (business and economics, social sciences and other topics, operations research, and management sciences) using two different (however, related) keywords (1) “base of the pyramid” and (2) “bottom of the pyramid” produced 212 research articles. After excluding the duplicates (same articles appearing while using different keywords) and the papers dealing with irrelevant subjects for our study like medicine and chemistry, 136 papers were left to thoroughly screen further. Each of the 136 potentially relevant BoP papers was individually screened to select the most appropriate articles (i.e. the BoP papers explicitly dealing with the SSCM constructs developed by Beske and Seuring (2014)) for proceeding further with the literature review.

As pointed out in the previous section, instead of opting for a specific keyword search within the individual articles for sorting out ‘the inappropriate ones’, contents of all the remaining 136 articles have been thoroughly examined. The practice proved to be useful in identifying the most relevant papers to be included in this literature review. Finally, only the BoP papers selected and included in the review process were those that explicitly deal with any one or more of the SSCM categories and practices developed by Beske and Seuring (2014). The research articles addressing issues like factors effecting purchasing decisions of BoP customers, impact of institutions on BoP consumers, and so on were excluded in this phase of the literature review. The final number of BoP articles taken up for the next step of the literature review process was ultimately 77. Each paper was also coded against the SSCM practices posited by Beske and Seuring (2014). To ensure the validity and reliability of the coding, a subset of five papers was coded by three researchers, which allowed for establishing a sound coding routine. The remaining papers were coded by one of those three researchers. The construct validity was

ensured by discussing the coding with the authors of the initial framework so that the comprehension of the single constructs was in line with the initial intention.

3.3.2. Contingency analysis

As a second step of the analysis, a contingency analysis among the single items of the constructs is presented. "A contingency analysis detects positive association patterns between categories, i.e., it identifies pairs of categories which occur relatively more frequently together in one paper than the product of their single probabilities would suggest" (Gold *et al.*, 2010). The phi-coefficient (φ) indicates the strength of association between a pair of categories. A φ value greater than 0.3 indicates a significant relationship between the respective categories (Fleiss, 2003; Gold *et al.*, 2010). Therefore, associations having φ values less than or equal to 0.3 are not entertained and simply discarded. In order to avoid statistical approximation errors associated with a small sample size, a Fisher's exact test was employed (Field, 2013). Having said that, it must be kept in mind that a positive value of φ does not indicate the causality of association between the pair of categories. Neither can one argue based on the φ value that the author(s) of the particular paper have tried to establish the co-relation between the respective categories/constructs. The φ value, therefore, only indicates the frequency of occurrence and thereby association between two constructs/categories in each paper. Nevertheless, the contingencies provide insights into some actions that may have an effect on other practices when pursuing BoP strategies. Exemplars for such contingencies are further explored in the results and discussion sections.

3.3.2.1. Descriptive analysis of the BoP papers

Since the research boundaries (shown above) have already been defined and SSCM categories and practices have been selected, the process of categorization of relevant BoP papers started while screening individual papers during the selection process. Each of the BoP papers was thoroughly read and coded against the SSCM constructs during this phase of the literature review. Not only were the publications coded against the SSCM categories and practices mentioned in *Table 1*, but also the relevant descriptive data was collected during the course of the study to get a deeper understanding of the BoP literature. Subsequently, the analyzed body of literature, i.e. the 77 papers, are classified into several descriptive categories. The first one is the timely distribution of the selected paper. *Figure 2* shows the distribution across the years of publication. The topic only gained increasing attention around the year 2010. However, we should mention that this is not a full sample of the related literature but instead a subgroup, thus the timely distribution must be interpreted with caution.

Conceptual versus empirical, case-based research

As far as the methodology employed by the BoP researchers, 29 BoP papers (37.6%) were of conceptual or theoretical nature, and 48 BoP papers (62.3%) were empirical papers. Within the empirical group, case studies strongly dominate, while two papers mention surveys (Schuster and Holtbrügge, 2014; Sutter *et al.*, 2014) or action research (i.e. Anderson and Markides, 2007). This is in line with the findings of Kolk *et al.* (2014) who also pointed out that the bulk of the BoP papers were either conceptual or case studies. The significant number of conceptual papers also is a clear indication of the fact that BoP research is in its development phase.

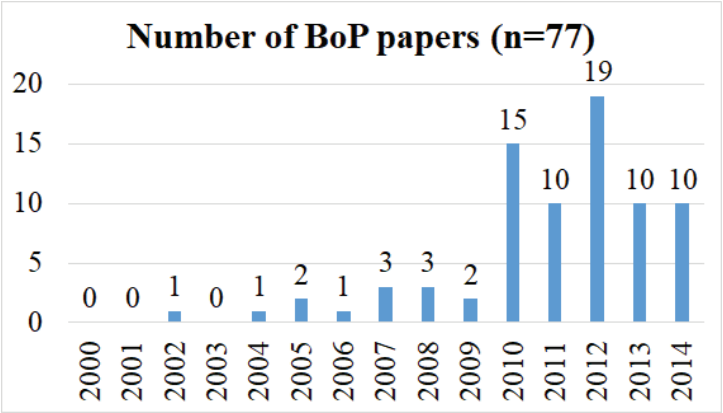


Figure 2: Distribution of the BoP publications per year

Regions of study

Following the arguments of Kolk *et al.* (2014), the findings of this paper also reveal that "India accounts for the vast majority of illustrations found in BoP articles" (Kolk *et al.*, 2014). Papers could be assigned to more than one category, as different countries might be mentioned in the same paper. About 24 papers (31%) discuss BoP in the context of Southeast Asia, focusing mainly on India and Bangladesh. Twelve BoP papers (15.5%) were African oriented, 10 papers (13%) were addressing BoP in Latin American countries, and about 32 papers (41.5%) did not specify their regional focus. It was very interesting to note that 6 papers (7.8%) put in the category of "others" were focusing on North America and Europe. These papers were mainly addressing either the products or the business strategies formulated by different stakeholders in the developed countries to promote entrepreneurial activity in the BoP (e.g. Gino and Staats, 2012; Schrader *et al.*, 2012) (see *Figure 3*).

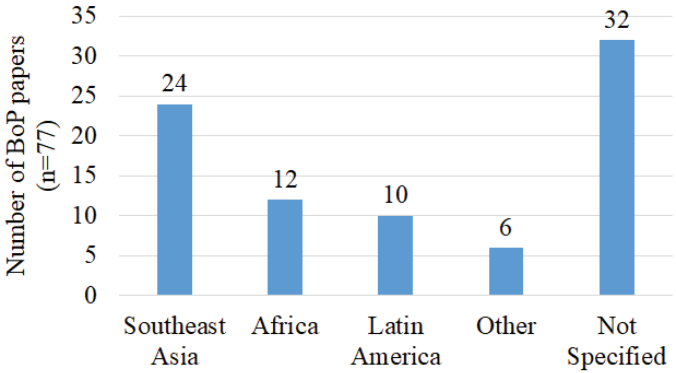


Figure 3: Region-based distribution of BoP papers

Actors/stages of the supply chain

When discussing the BoP actors in the supply chain, about 27 papers (35%) were taking the manufacturer/producer/supplier as the core BoP role being assessed; 6 papers (7.8%) were considering the distributor as BoP; 39 papers (50.6%) were taking consumers as BoP; and about 18 papers (23.3%) did not specify the supply chain actor they are treating as BoP. It is appropriate to highlight here that many papers were focusing on multiple BoP actors in the respective supply chains (*Figure 4*).

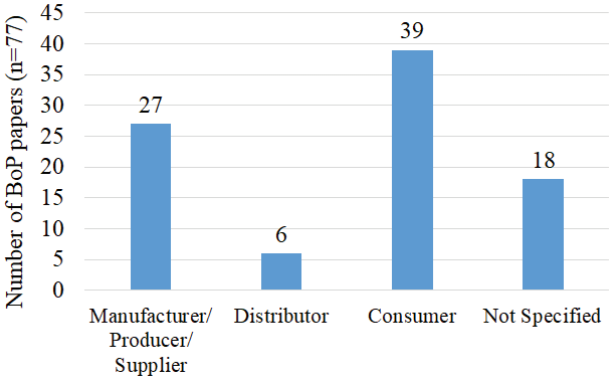


Figure 4: Supply chain member focus in BoP papers

Industrial focus of BoP papers

The industrial focus in the BoP literature shown in *Figure 5* depicts an almost analogous dissemination of papers across different industrial sectors in the BoP market environment. However, in the case of papers not specifying peculiarly the industrial focus, it was observed that the respective papers were mostly trying to conceptualize general BoP market issues and dynamics (Ansari *et al.*, 2012; Arnold and Valentin, 2013).

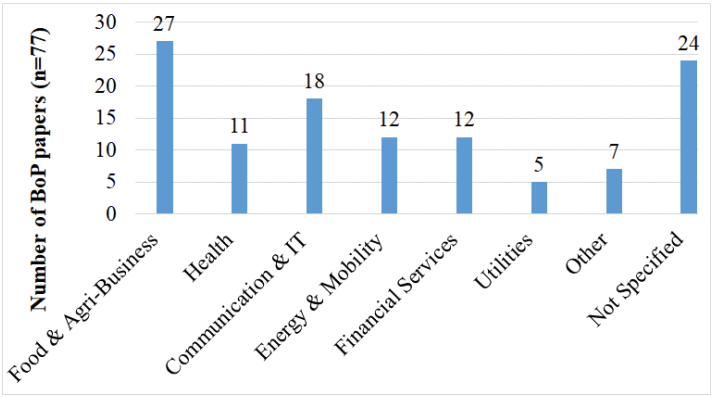


Figure 5: Industrial focus of BoP papers

3.4. Results

3.4.1. Integrating constructs and synthesizing results

After coding the BoP publications against the established SSCM practices, the next and most crucial part of the review process was the subsequent analysis of the data for compiling results. The paper frequencies of individual SSCM constructs were counted, offering first insights into the level of attention that these constructs have obtained in BoP publications. We point out again that only publications mentioning respective (S)SCM categories and practices developed by Beske and Seuring (2014) were coded against the particular SSCM constructs.

3.4.2. Frequency analysis

The frequencies of individual SSCM constructs are indicated in *Figure 6*. By investigating the frequencies of each of the SSCM practices, it became clear that there are certain SSCM constructs considered by BoP scholars relevant for the supply chains operating in the informal market economies. Taking 20% of the total number of BoP papers used in this research as a threshold level, the results further reveal that the scholars in BoP markets only consider the categories of continuity, collaboration, and pro-activity important. Moreover, the respective scholars do not consider all of the SSCM practices in each particular category critical for BoP markets.

It is obvious from the frequencies that the SSCM practices of long-term relationships and partner development are considered decisive in the category of continuity; joint development, technological integration, and enhanced communication stand out in the category of collaboration; and the supply chain practices learning, stakeholder management, and innovation in the category of pro-activity are most often mentioned. A brief commentary on each of the categories and the frequency counts of corresponding practices are presented below. The numbers given in parentheses indicate the frequency count and percentage of total papers for the respective construct.

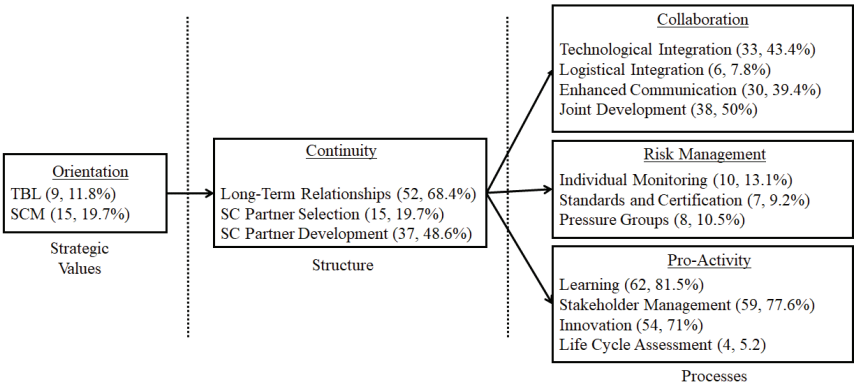


Figure 6: Frequencies of SSCM constructs observed in BoP papers

Orientation

The first category in the SSCM framework proposed by Beske and Seuring (2014) calls for the full support and active involvement of top management in initiatives dealing with integrating principles of the triple bottom line (TBL) (15 papers) and supply chain management (3 papers) into the organizational strategy. However, as shown in *Figure 6*, the results of the literature review suggest that the BoP scholars have commented and argued about this category and the respective practices only rarely in the context of BoP supply chains.

The low value for a triple bottom line orientation parallels with previous findings that the environmental debate in the BoP literature is rather neglected (Schrader *et al.*, 2012; Gold *et al.*, 2013). The low value for SCM orientation might appear unlikely, as all papers where filtered for SCM-related arguments. However, for the strategic values category to be counted, we only considered papers that actively presented related arguments in the paper. This was only the case in three papers: (1) Karnani (2007) calling for more integration of poor people into productive processes, (2) Vachani and Smith (2008) dealing with distribution aspects and (3) Gold et al. (2013) analyzing three BoPs against SCM constructs.

Incorporating the debate into a more discursive analysis of the category, the study revealed that BoP scholars are calling for pursuing a business philosophy disruptively different from the existing norms. BoP markets should be considered as a platform 'to learn from' instead of places 'to sell to' for creating workable solutions for the challenges at hand in poverty-stricken communities, thus enabling sustainability in its broadest sense (Varadarajan, 2014). As highlighted by (Viswanathan *et al.*, 2009) "starkly different conditions of severe resource constraints in subsistence marketplaces warrant revisiting traditional beliefs and philosophies that work to different degrees in relatively resource rich settings." This call for change in business philosophy in BoP inherently demands an analogous change in supply chain orientation (Seelos and Mair, 2007). Though the environmental issues are considered fundamental to the sustainable supply chains having stakes in resource rich settings, the social issues formulate the core of sustainable supply chains' operations in resource-scarce communities (Sinkovics *et al.*, 2014; Perez-Aleman and Sandilands, 2008). For supply chains to become more sustainable and competitive thereby must have a clear social mission. The social mission ideally should be intricately connected with the firm's operations (Perez-Aleman and Sandilands, 2008). The corresponding business models will thus strive to overcome the constraints hampering the development of BoP. The respective development constraints directing the design of business models thus are considered as the triggers of the economic activity in BoP discussion (Sinkovics *et al.*, 2014). The BoP debate considers economic development to complement social development. Thus ideally both economic and social aspects of sustainability should supplement each other in poor communities (Calton *et al.*, 2013).

BoP research also calls for bottom-up orientation "for understanding life circumstances and ingraining social good into businesses, through developing knowledge, designing solutions and implementing business plans (Viswanathan *et al.*, 2009). The bottom-up orientation for getting access to firsthand knowledge about consumer preferences, demands, and the specific business environment should complement an active assistance approach. This active assistance should be incorporated as the cornerstone of the firm's policy not only for the development of disadvantaged actors of the supply chains but also for enabling the successful implementation of various social and environmental standards in collaboration with other stakeholders like non-governmental organizations (NGOs) (Perez-Aleman and Sandilands, 2008; Ghauri *et al.*, 2014).

Continuity

The second category proposed by Beske and Seuring (2014) is concerned with ensuring the future success of a supply chain, particularly for suppliers (Pagell and Wu, 2009). The respective practices are concerned with building long-term relationships (62 papers) with supply chain partners and related capability development of weak supply chain partners with the objective of increasing the overall performance of the supply chain. This is assuming that a partner selection process is in place before such investments in the relationships and development are pursued. The results of the literature review illustrate that BoP scholars are advocating SC partner development (51 papers) and establishing trustworthy, long-term relationships between MNCs and the BoP (Gold *et al.*, 2013; Hall *et al.*, 2012; Karnani, 2007) while focusing less on the practice of partner selection (6 papers). This item seems to be more appropriate for focal companies in established markets.

The BoP debate considers long-term relationship development with a wide array of stakeholders as one of the key pillars of formulating successful business strategies (Ramani and Mukherjee, 2014). Going beyond the old-style approach of collaborating with traditional supply chain partners, firms should engage with local non-traditional supply chain partners who can compensate for the lack of respective firm capabilities in a BoP business environment (Vachani and Smith, 2008; London and Hart, 2004). The development of long-term relationships with corresponding stakeholders is, therefore, considered an essential capability by Seelos and Mair (2007). The objective of developing long-term relationships should be twofold: first to compensate for the deficiency of context-relevant competencies of focal firms for developing innovative products and solutions for the challenges at hand (Schuster and Holtbrügge, 2014; Sánchez and Ricart, 2010). The second objective of long-term relationships is for developing the capabilities of disadvantaged supply chain partners (London and Hart, 2004). Relationship development for the sake of development of deprived supply chain partners can help spin the virtuous circle of prosperity in the poor communities thus helping achieve more joint development (Sánchez and Ricart, 2010). The link between long-term relationship and joint development is therefore also evident in *Figure 7*.

Another interesting debate, linking the discussion with the construct of supply chain partner selection, was evident concerning how to develop long-term relationships in BoP projects to support the capabilities of deprived supply chain actors. Apparently, scholars mostly discuss relationship development with two distinct types of supply chain actors. First, this addresses the relationship development with the non-traditional stakeholders having stakes in BoP ventures such as (Webb et al., 2010; Schuster and Holtbrügge, 2012). The second focus of the relationship development is with the poor itself, namely poor farmers and local entrepreneurs working in BoP (Lim *et al.*, 2013). Firms or their subsidiaries having strong social embeddedness in emerging economies tend to select and link directly with local entrepreneurs (Hill and Mudambi, 2010; Gino and Staats, 2012). The subsidiaries of MNCs having poor social embeddedness in the poor communities usually start BoP ventures by partnering with stakeholders like NGOs, governmental agencies, educational institutions (Karamchandani *et al.*, 2011; Webb *et al.*, 2010). These stakeholders then serve as a bridge for selecting and ultimately linking appropriate BoP actors with the firms.

Collaboration

The third SSCM category is collaboration and includes practices dealing with both structural and operational aspects of a sustainable supply chain (see Gimenez and Tachizawa, 2012). The results indicate that BoP scholars consider the practices of enhanced communication (50 papers), technological integration (32 papers), and joint development (51 papers) imperative for the functioning of an efficient supply chain in the BoP context (Kistruck *et al.*, 2013; Vachani and Smith, 2008). BoP scholars, which point again to the scarce uptake of operational

issues in BoP projects, have not critically considered the practice of logistical integration (10 papers) among the collaborating supply chain partners.

Enhanced communication with stakeholders is considered as an obligation for developing relationships allowing for joint development by all stakeholders (Shivarajan et al., 2013). This is also depicted by the link between enhanced communication, long-term relationship, and joint development in *Figure 7*. Concerning technology, Silvestre and Neto (2014) mention that "although technology development is a critical step, without a broad diffusion, the technology can become a key mechanism exacerbating social exclusion & wealth concentration in BoP regions because privileged entrepreneurs will always be the ones with full access to the new technologies." BoP scholars consider the development of indigenous technologies and its distribution vital for the development of BoP (Hart and Dowell, 2011; Halme *et al.*, 2012). However, for technology to serve its purpose of developing all stakeholders including the BoP, the local community should be actively integrated during its development, dispersion, and operational phases (Hart, 2005; Bardy *et al.*, 2012). Such technology is referred to as 'participatory technology' (Arora and Romijn, 2012). BoP literature comments on an extensive list of technologies, their distribution, and their role in developing the poor. Some of the examples include crop production technologies (Perez-Aleman and Sandilands, 2008), product design technologies (Ramachandran *et al.*, 2012), information communication technologies (Berger and Nakata, 2013), technologies facilitating product distribution (Chesbrough *et al.*, 2006), technologies for testing and prototyping (Lim *et al.*, 2013) and hydropower technology (Halme *et al.*, 2012). Hart (2005) emphasizes the development of clean and eco-friendly technologies in coherence with the needs of BoP.

Absent or malfunctioning transport and distribution infrastructure are among the prominent hurdles hampering the development of BoP (Chesbrough *et al.*, 2006). With very few papers addressing this challenge (Karamchandani *et al.*, 2011; Vachani and Smith, 2008), the logistics-related issues have not gathered due attention in BoP literature (see *Figure 6*). The papers referring to logistical issues consider logistical integration with stakeholders for either reducing the logistics-related costs or for allowing access to a widespread consumer base (Karamchandani *et al.*, 2011).

Risk management

Risk management, although being of central importance in any business activity, has gathered little attention in BoP publications. All three items in this construct received very low frequencies: pressure groups (3 papers), standards and certifications (10 papers), and individual monitoring (5 papers). This implies that it would be necessary to remove risk management from the conceptual framework. However, these results might be a consequence of the positive tendency respective papers usually have in offering case success stories as already pointed to by Karnani (2007). This differs from the debate in sustainable SCM, where top-management support and NGO pressure are two driving forces for implementing related risk measures (Freise and Seuring, 2015). Interestingly, most of the BoP papers deal with the aspect of risk management from the perspective of firms (e.g. Olsen and Boxenbaum, 2009). The debate involving the potential risks for the poor in doing business with the MNCs seems rather neglected. There are, however, a few exceptions. Ramachandran et al. (2012), for example, discuss how BoP producers were gradually enabled to share the large part of upstream risk (capital risk and inventory risk) with the focal firm. Risk management strategies employed by microfinance institutions lending to the poor are discussed by (Galariotis *et al.*, 2011). Partnerships and network formation with stakeholders is considered as the solution for mitigating the investment and operational risks involved with doing business in the BoP (Reficco and Marquez, 2012), being linked to the network level in sustainable SCM (Miemczyk *et al.,* 2012). It has been argued that the partnerships and networks established to compensate

for the institutional voids can be safeguarded from the risk of opportunism by informal mechanisms relying on normative and cognitive institutional mechanisms instead of involving regulative institutions in developed economies to overlook more formal contracts (Rivera-Santos *et al.*, 2012). Using standards and involving stakeholders like NGOs to oversee compliance seem to be a common practice to fulfill the requirements of consumer markets while simultaneously technologically integrating BoP actors by the firms.

Pro-activity Management

Pro-activity management includes three practices relevant for supply chains operating in informal markets of developing economies. Learning (61 papers), innovation (61 papers), and stakeholder management (58 papers) are the core practices being mentioned most often in the BoP papers. The need for creating innovative products and solutions in collaboration with respective stakeholders for successfully addressing the BoP challenges has remained one of the core arguments (Shivarajan and Srinivasan, 2013; Vachani and Smith, 2008; Weidner *et al.*, 2010). Life-cycle assessment (LCA; 5 papers), on the other hand, has gathered little attention in BoP literature, also consistent with environmental issues hardly being mentioned in this body of research (Schrader *et al.*, 2012).

BoP scholars consider the lack of knowledge about the BoP as one of the prime obstacles hindering MNCs to enter BoP markets. Inherent differences in the business environment of BoP markets and traditional markets of MNCs limit the usefulness of the knowledge acquired by the MNCs and its transferability to address challenges in the BoP markets (Schuster and Holtbrügge, 2012). Learning about the needs of the poor, consumer preferences, and general market characteristics is emphasized in the BoP literature. Social inclusion is crucial for gathering market knowledge (Hall *et al.*, 2012). Learning through social embeddedness leads to co-creation of innovative solutions to create win-win scenarios for all stakeholders. Firms thus need to develop relational capacity to develop relationships with stakeholders assisting in learning from BoP (Murphy *et al.*, 2012b). Social inclusion, learning, and innovation are envisioned as being closely linked with each other (Sutter *et al.*, 2014; Silvestre and Neto, 2014). Tashman and Marano (2010) state that "learning dynamic capabilities support the creation of organizational knowledge and knowhow for developing innovations and solutions to existing problems." Moreover, the literature also deals with learning from the perspective of the poor. Learning is considered vital for the poor to develop the relevant capabilities, for example different technological capabilities, that can help them enter into healthy relationships with firms (Schuster and Holtbrügge, 2012). This is also depicted by the strong statistical link between learning, supply chain partner development, and technological integration (see *Figure 7*).

3.4.3. Contingency analysis results

In a second analytical step, a contingency analysis was conducted. For gathering a comprehensive understanding of the subject at hand, the base sample of 77 BoP papers was further divided into two sub-groups depending on the methodology employed by the researchers (i.e. empirical or non-empirical). This seems justified as we already pointed out that there is an ongoing conceptual debate (Kolk *et al*., 2014) and also related empirical research. As the second group almost exclusively relies on case study research, it is not sub-divided further. Each of the three groups was scrutinized individually for finding the contingencies in the respective group. A brief overview of each of the groups along with the results of the contingency analysis is as follows:

(1) The first group includes **all** the 77 BoP papers. Contingency results of this group therefore are a depiction of general attitudes of BoP scholars towards the SSCM constructs, as seen in Table 2.

(2) The second group consists of conceptual or **non-empirical** BoP papers (29 papers). The contingency results for this group present an overview of non-empirical BoP papers for SSCM constructs (see Table 3).

(3) The third group is composed of **empirical** BoP papers (48 papers). The contingency results of this group thereby present an analysis of how empirical papers see SSCM constructs working in BoP business environments (see

(4)

(5) Table 4).

Table 2: Contingency results of 77 BoP papers (total sample)

General					
	Phi-Coefficient	**Approximate Significance**	**Exact Significance (1-sided)**	**Observed Frequency (%)**	**Expected Frequency (%)**
Triple bottom line and life cycle assessment	0.403	0	0.004	5.19	1.3
Long term relationship and enhanced communication	0.326	0.004	0.006	58.44	52.34
Long term relationship and stakeholder management	0.327	0.004	0.008	66.23	60.65
SC partner development and technological integration	0.435	0	0	37.66	27.53
SC partner development and learning	0.379	0.001	0.002	59.74	52.47
Technological integration and logistical integration	0.301	0.008	0.011	10.39	5.45
Technological integration and standards and certification	0.301	0.008	0.011	10.39	5.45
Technological integration and learning	0.367	0.001	0.001	40.26	32.99
Technological integration and innovation	0.302	0.008	0.007	38.96	32.99
Logistical integration and individual monitoring	0.369	0.001	0.014	3.9	0.78
Joint development and innovation	0.447	0	0	61.04	52.47

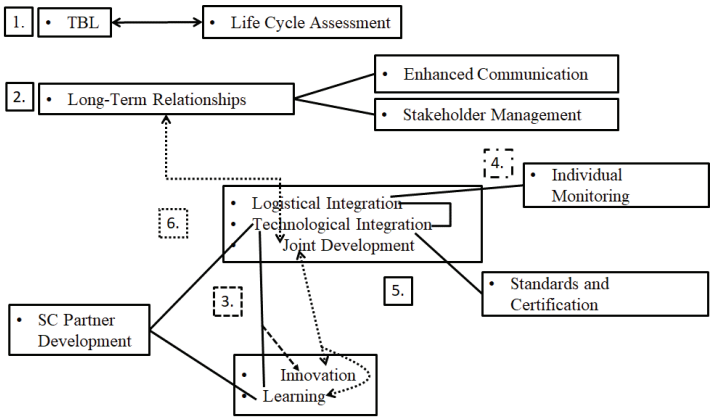
Table 3: Contingency results of 29 conceptual BoP papers

Conceptual					
	Phi-Coefficient	**Approximate Significance**	**Exact Significance (1-sided)**	**Observed Frequency (%)**	**Expected Frequency (%)**
Long term relationship and enhanced communication	0.423	0.023	0.031	18.18	14.81
Long term relationship and stakeholder management	0.623	0.001	0.003	25.97	21.69
SC partner development and technological integration	0.411	0.027	0.037	6.49	3.64
Technological integration and logistical integration	0.596	0.001	0.025	2.6	0.39

Table 4: Contingency results of 48 empirical BoP papers

Empirical					
	Phi-Coefficient	**Approximate Significance**	**Exact Significance (1-sided)**	**Observed Frequency (%)**	**Expected Frequency (%)**
Long term relationship by joint development	0.356	0.014	0.025	41.56	37.92
SC partner development by technological integration	0.408	0.005	0.006	31.17	25.58
SC partner development by learning	0.428	0.003	0.007	41.56	36.88
SC partner selection by technological integration	0.301	0.037	0.047	6.49	3.64
Technological integration by standards and certification	0.394	0.006	0.006	10.39	5.84
Technological integration by learning	0.437	0.002	0.003	33.77	28.44
Joint development by learning	0.308	0.033	0.048	40.26	36.88
Joint development by innovation	0.482	0.001	0.003	42.86	37.92

The findings from the contingency analysis will now be explained further. Starting with the total sample, the contingencies can be split into seven groups of arguments. While we explain them first, we will also have to take into account the frequencies of the items linked to each other as well as the number of contingent items within each group of arguments. To allow for an easier comprehension of the contingencies, they are shown in *Figure 7*.



The numbers indicate the explanation of the contingencies in the text.
The different lines are only used so that related groups of contingencies can be indentified, but do not have any further meaning.

Figure 7: Contingencies among the sustainable supply chain categories and practices

1. The first contingency is the somewhat limited coverage of environmental management related issues. The link between triple bottom line orientation and life-cycle assessment is the only link into environmental issues, and this is not connected to any other practice. It thus provides further evidence that environmental issues are still rarely addressed and

disconnected from other lines of arguments in the BoP literature (Hart and Dowell, 2011; Arnold and Williams, 2012). This link can only be found in the base sample.

2. The second nexus is around long-term relationships, which are contingent with enhanced communication and stakeholder management. This corresponds to established BoP project related arguments, which require learning and communication so that a long-term viability can be ensured (London and Hart, 2004; Arnould and Mohr, 2005). The interesting aspect is that this link is only evident among the conceptual papers but not in the empirical ones. It might (again) be the typical positive assumptions of such BoP projects driving the arguments (Karnani, 2007).
3. A strong link is found among SC partner development, technological integration, and learning, which are all contingent with each other. This seems to be a viable intersection among the BoP and SSCM literature, as all three items are well represented in the analyzed literature (Ray and Ray, 2010; Parthasarathy, 2010). Further, these links are derived from the empirical research, while in the conceptual papers only the association between SC partner development and technological integration is observable.
4. Based on the total sample, there is one more link of logistical integration with individual monitoring (e.g. in Karamchandani *et al.*, 2011; Vachani and Smith, 2008). As both only have frequencies of 10, this comes almost as a surprise. The interpretation of such a link argues for the need to monitor logistical activities and ensure their sound fulfillment as they form the physical backbone of the supply chain (Karamchandani *et al.,* 2011; Kistruck *et al*., 2013).
5. The next group of items is centered on technological integration, which is the item with the most contingencies found, and further strengthens the importance of the collaboration construct.
    - First, technological integration is linked with logistical integration, which might be explained by the fact that both items are part of the same original publication (Vachon and Klassen, 2006). As Table 3 shows, these are all contingencies found in the conceptual papers already.
    - Technological integration has a further link to innovation, which itself is contingent with joint development, resulting in two contingencies among innovation and collaboration items (see e.g. Tashman and Marano, 2010; Hall *et al.*, 2014).
    - Last, there is a link from technological integration to standards and certification (see e.g. While standards and certification are more of a type of risk reduction measure, this emphasizes the need for establishing business processes beyond the erratic occurrence and stresses the relevance of technological integration (Gold et al., 2013). The need for joint development would then enable product and process innovation, which have both been argued for in related BoP literature.
6. A last group of items emerges from the empirical papers. Long-term relationships are related to joint development, which then links into learning and innovation. Here, the interpretation is almost straightforward from giving this sequence of mentioning the single practices.

3.5. Discussion and future research directions

The contribution this paper makes is a first set of SSCM practices being put into the context of BoP literature. By presenting a set of SSCM practices relevant for BoP, the paper progresses towards bridging the two research streams together on foundations of a sound methodological exploration of literature (Spens and Kovacs, 2006). This assessment contributes to knowledge generation and allows for the identification of future research needs. Returning to *Figure 6*, it is apparent from the findings that certain SSCM practices are overlooked so far in the BoP literature. There might also be an issue of having selected a SSCM framework not fully applicable to BoP related research, so that other constructs or practices might have yielded far better insights. While this is a limitation of the research presented here, this would already be a first suggestion for future research. Yet, the frequencies and contingencies observed are strong evidence for the relevance of SSCM constructs. The shortcoming might rather be that such a deductive approach does not allow for identifying topics beyond the preselected constructs. This contributes to this body of literature and establishes the link among (S)SCM and BoP firmly. As one topic nearly ignored so far, risk management would be expected to have high relevance in the context of emerging economies, but it has gathered little attention of the concerned BoP scholars. The literature review thus further highlights the fact that despite being emphasized by scholars like Karnani (2007) and Kolk et al. (2014), the rationale of BoP has yet to mature on certain aspects of pro-activity. Staying at the interpretation of the findings, also other supply chain issues, particularly supplier selection and logistical integration, received surprisingly little attention. Given the high relevance of supplier development activities for social issues in supply chains (Yawar and Seuring, 2015), this is somewhat surprising and would also point to future research needs. Long-term relationships, collaboration, and stakeholder integration are frequently mentioned. Linking this well into the sustainable supply chain debate. Still, this might also confirm the critique of Karnani (2007) that BoP related research often takes a too simplistic and positive turn on related corporate activities, so that a more detailed analysis of such integration activities would be required. This would be an opportunity for SCM researchers to address this gap in research and thereby contribute to SSCM related research, which is rarely based on empirical data from BoP related research. The findings of the paper also highlight the fact that management researchers and practitioners have yet to come up with more vigorous and context-relevant SSCM practices to fulfil the needs of informal market economies (Ansari et al., 2012).

The results of this literature review indicate that an attitude of considering BoP as passive recipients of development policies does not have promising prospects in the context of sustainable development of deprived segments of the global population. To achieve the objective of sustainable development in the long run and create win-win scenarios, all stakeholders have to work together for co-creation of workable solutions for challenges faced by the poor at large (Karnani, 2007; Calton *et al.*, 2013; Arora and Romijn, 2012). Affluent supply chain actors have to embrace a bottom-up orientation considering the BoP market as a learning platform and the poor as an active stakeholder in business operations for co-creation of novel business models and innovative products satisfying the needs of the poor while working within the realm of capitalistic market philosophy (Viswanathan *et al.*, 2012; Calton *et al.*, 2013; McMullen, 2011). Hart (2005) labels this approach ‘inclusive capitalism’. Results further highlight that there are certain SSCM constructs which are considered by the BoP scholars as relevant for satisfying the specific needs of the BoP population. Technological

integration (Vachon and Klassen, 2006) emerges as the central construct, which has the highest number of contingencies to other items. Based upon the relevance of the single SSCM constructs and practices in this literature review, it is proposed that there are positive potential avenues for integrating SSCM and BoP research streams (Murphy et al., 2012; Sanchez and Ricart, 2010). One particular research direction would be assessing BoP projects in empirical research. As many pieces of empirical research have been conducted already, enriching them with (S)SCM constructs seems a viable option. However, interesting insights were also revealed in the sense that some frequently used SCM constructs like logistics integration gathered little attention of the BoP scholars. Future research may pursue more vigorous efforts by employing more SSCM and SCM constructs developed by other management scholars for consolidating the two research streams. Moreover, empirical validation of the findings of this paper and of any future effort undertaken to explore the commonalities between SSCM and BoP could help to build a strong theoretical foundation for further development of rationale. Another area of interest for future researchers could potentially be to explore if there are any contingencies among the various SSCM constructs, based upon the findings of this and/or any future literature reviews conducted on similar lines. It would be quite interesting to see positive associations in the context of the BoP and then validating those findings empirically to also determine the causality.

There are several limitations of the extant research. First, only one framework of SSCM practices has been applied. It could be questioned whether the Beske and Seuring (2014) framework is most suitable. The ex-post justification is that we obtain meaningful results. For an exploratory piece of research, this might be justified. Second, the paper selection might be criticized. Reviewing all papers on the BoP topics was simply unrealistic for the sake of this study. Not only would the time requirement be impossible to fulfill, but also many articles would not give relevant insights as they take a completely different perspective. Nevertheless, selecting different papers for the review might have given different insights.

As far as the question of research quality is concerned, the construct validity in the paper is ensured by using the SSCM constructs already posited in the SSCM literature. However, with the entire coding process not being scrutinized by multiple researchers, we accept and acknowledge the limitation of this paper in terms of reliability. Alternative empirical methods should allow for a further analysis of how SSCM can be applied in BoP related research.

3.6. Conclusion

BoP and SSCM research approaches either directly (BoP) or indirectly (SSCM) propose potential solutions to address one of the most pressing issues faced by humanity at large--poverty. Both of the research streams address issues like business partner development, stakeholder involvement, innovation, technological integration, enhanced communication, long-term relationship development with other supply chain actors, and learning however irrespective of each other and while remaining within the confinements of their own boundaries. By far, to the best of our knowledge, no prominent effort has been undertaken to explore how both of these research streams are interlinked. By conducting a comprehensive, systematic literature review, we have paved the path towards filling this research gap. We are certainly aware of the limitations of our research findings. However, this effort will help draw the attention of BoP and SSCM scholars alike towards this underexplored research avenue.

Moreover, by presenting a blueprint conjoining the SSCM and BoP concepts, we provide interesting topics for future research in this area.

4. Analyzing base-of-the-pyramid research from a (sustainable) supply chain perspective

The chapter presents an article published in *Journal of Business Ethics* by Khalid and Seuring (2017).

Abstract

Research on the base-of-the-pyramid (BoP) approach and the associated business case for deprived participants in informal markets now appears frequently in a range of business ethics and management-related journals. The present analysis of how supply chain management (SCM) and sustainable supply chain management (SSCM) concepts are habitually used in base-of-the-pyramid research serves to strengthen the theoretical foundation of BoP research by addressing the related business case. Based on a content analysis of BoP papers published in English-speaking peer-reviewed journals between 2000 and 2014 from the Web of Science database, this literature review comprehends existing research in the context of established SCM and SSCM frameworks, using both frequency and contingency analyses. The frequency analysis indicates that supply chain management and sustainable supply chain management ((S)SCM) constructs regularly discussed in the BoP literature include supplier integration, strategic purchasing, decommoditization, long-term relationship and enhanced communication among supply chain actors. The identified contingencies reflect linkages between BoP research and (S)SCM constructs. The highest number of links were found between the SCM constructs of strategic purchasing and long-term relationship and the SSCM constructs of supplier integration and communication and coordination with suppliers. These can be regarded as the most crucial (S)SCM constructs in the BoP business environment. This analysis facilitates the development of future research propositions at this intersection, including the use of tools from (S)SCM theories to evaluate BoP propositions and projects. Granted the limited range of BoP-related papers analysed, the findings provide a coherent understanding of (S)SCM practices crucial to the functioning of BoP markets and why they matter, so contributing to the related ethical rationale. These findings will be of use to researchers and practitioners alike for the formulation of business development strategies and their subsequent implementation in informal market economies.

Keywords: Supply chain management; Sustainability; Base-of-the-Pyramid; Content Analysis; Supplier Integration; Developing Economies

4.1. Introduction

In many communities worldwide, pressing development challenges demand innovative propositions to kick start processes for reaching social and economic targets. Informed by an ethical rationale (Calton *et al.*, 2013), the business cases are acknowledged as primary tools for changing many people's economic destiny through an array of development opportunities that can help them to escape the vicious cycle of poverty (McMullen, 2011; Sánchez and Ricart, 2010). The term *base of the pyramid* (e.g., Prahalad, 2006) refers to entrepreneurial activity in low-income environments. The BoP debate calls for the formal corporate sector of the

developed countries to initiate business activities in the informal markets of developing economies. It also highlights the crucial role that small-scale local entrepreneurs in informal markets can play in the economic development of their impoverished communities (London and Hart, 2004; Calton *et al.*, 2013). However, the BoP research stream is "still in a pre-paradigmatic state of development as an academic field" and needs sounder theoretical foundations on which to build, along with reliable tools for evaluating development strategies and business plans (Ansari *et al.*, 2012).

In this regard, recent research has explored the integration of unprivileged supply chain actors into productive activities (Reficco and Marquez, 2012; Schrader *et al*., 2012), highlighting the role of (S)SCM in enriching the BoP approach and the related ethical research discourse (Gold *et al.,* 2013; Esko *et al.*, 2013). Issues like supply chain partner development, collaboration, stakeholder management, creating win-win scenarios, technological and logistical integration, innovation and learning, which are core constructs in theories of SCM (e.g., Chen and Paulraj, 2004; Vachon and Klassen, 2006) and SSCM (Beske and Seuring, 2014; Pagell and Wu, 2009; Seuring and Müller, 2008; Yawar and Seuring, 2015), also constitute the essence of the BoP debate (Prahalad, 2012; Silvestre and Neto, Romeu e Silva, 2014; Vachani and Smith, 2008). A recent analysis by Khalid *et al*. (2015) provided some first insights into the relevance of these topics for BoP-based research.

As a more mature research stream, (S)SCM has much to offer in the development of BoP research, but to date, the interface of these two streams has attracted little research interest (Gold *et al.,* 2013). A brief description of some key findings at this intersection will help to illustrate this, and to explain the research gap. Gold *et al.* (2013) have discussed how SSCM can complement the triple bottom line goals of multinational organizations. While that study sought to incorporate sustainability concepts in BoP research by focusing on SSCM, Sodhi and Tang (2011) and Sodhi and Tang (2013) employed a more traditional SCM perspective to examine supply chain issues in emerging economies. Sodhi and Tang (2011) identified attributes that enable social enterprises to operate successfully and help micro-entrepreneurs to sustain their supply chain operations, and Sodhi and Tang (2013) argued that current supply chain models cannot satisfy the operational needs of emerging economies. Matos and Silvestre (2013) adopted a more stakeholder-oriented perspective, describing SSCM strategies that can help organizations to connect better and "overcome challenges of conflicting interests when considering sustainability in their business models" against the backdrop of BoP. From these examples, it becomes clear that researchers attempting to inculcate SCM or SSCM in BoP research have tended to work with only one approach at a time; to our knowledge, no notable contribution has employed a cumulative (S)SCM approach to advance the BoP agenda.

The aim of the present paper is to enrich the theoretical basis of BoP research by analysing the use of established (S)SCM concepts in BoP-related publications. To this end, the paper reports the findings of a literature review of 77 BoP papers from the Web of Science database, selected for their coverage of (S)SCM-related issues. The papers were coded in terms of the (S)SCM constructs developed by Chen and Paulraj (2004), Seuring and Müller (2008), Pagell and Wu (2009) and Carter and Rogers (2008) to establish how (S)SCM concepts relate to the current BoP debate and to deepen the analysis of BoP projects while broadening the (application) scope of (S)SCM.

The structure of the paper is as follows. The next section introduces the reader to the basic terminology used here. Section three elaborates the research methodology employed to conduct

the literature review. The fourth section presents the results of the literature review, broadly categorized into frequency-related and contingency-related findings. Section five includes limitations of the study, along with a comprehensive discussion, with brief conclusions in the final section.

4.2. Basic terminology and conceptual framing

The term *bottom/base-of-the-pyramid* (BoP) was popularized by Prahalad's seminal work *The Fortune at the Bottom of the Pyramid* (2006). In the management literature, the term is used to refer to approximately four billion people who live on $9.05 per day or less, which includes a subset of approximately 2.6 billion people living on $2.00 per day or less (Arnold and Valentin, 2013). While the precise income figure used to specify BoP depends on the researcher's definition of poverty, country-specific living conditions and other relevant factors, BoP refers more generally to those individuals excluded from "the current system of global capitalism" (Arnold and Williams, 2012). This group comprises the bottom tier of the world income pyramid and is mainly but not solely composed of citizens of so-called *developing* countries who are dependent on an informal market economy to fulfil their daily needs. Informal markets in these developing countries are characterized by an inefficient market mechanism, mainly as a consequence of a malfunctioning or absent institutional and communication infrastructure to support smooth market functioning (Schuster and Holtbrügge, 2012).

In BoP research, a vibrant and efficient market mechanism and the resources of private enterprises are considered key in addressing the challenge of poverty (Hahn, 2009). As recent BoP research has focused more on the decisive role of small-scale local entrepreneurs in the development process, the BoP literature has advocated development of the capabilities of local entrepreneurs and their BoP business case rather than the intervention of multinational corporations (MNCs) in the BoP (London *et al.*, 2010; Karnani, 2007; Prahalad, 2006). The BoP literature therefore views progressive business practices like joint innovation and joint development as highly relevant for the co-creation of mutual value for all stakeholders in the unique business environment that is BoP (Ray and Ray, 2010b; Murphy *et al.*, 2012a).

Moving toward a supply chain perspective, Chen and Paulraj (2004, p. 119) acknowledged that "rising international cooperation, vertical disintegration, along with a focus on core activities have led to the notion that firms are links in a networked supply chain." In their recent article, Carter *et al.* (2015) conceptualized a supply chain as "…a distinct (relative to a particular product and a focal agent), bounded (by the visible horizon, which is subject to attenuation), and thus parsimonious unit of analysis." SCM contrives to manage all the business-related activities of supply chain actors, conceptualized as a network of interlinked firms, to smooth the flow of products and services along the chain. It is important to note that the subject of supply chains and their efficient management as nurtured in so-called *developed* countries predominantly addresses the issues of the corporate sector operating in formal markets (for a country level study, see Morali and Searcy, 2013). As a result of the intense competition in the traditional formal markets of developed countries, contemporary supply chains have become global, driving many firms to source from relatively cheap and informal market economies.

SSCM broadens the scope of SCM by incorporating the notion of the triple bottom line into mainstream SCM theory. Building on earlier work by Seuring and Müller (2008) and Pagell and Wu (2009), SSCM has more recently been defined by Pagell and Shevchenko (2014) as "…the designing, organizing, coordinating and controlling of supply chains to become truly

sustainable with the minimum expectation of a truly sustainable supply chain being to maintain economic viability, while doing no harm to social or environmental systems." Like its antecedent, the SSCM literature tends to focus more on formal market economies, so overlooking the challenges that modern enterprises must face in the informal market economies of developing countries (Gold *et al.*, 2013).

The (S)SCM frameworks developed by Chen and Paulraj (2004), Seuring and Müller (2008), Pagell and Wu (2009) and Carter and Rogers (2008) were selected here for the purposes of theoretical framing, for a number of reasons. First, the four papers are well known and widely cited within this research community, lending validity to the constructs used and findings of this paper. Second, in their comprehensive approach to construct identification and development, the four papers have sought to consolidate the dispersed (S)SCM knowledge base, so extending comprehension of these topics. Third, in their treatment of such business-enabling constructs as communication, long-term relationship development, decommoditization, stakeholder engagement and joint innovation, the four frameworks align well with BoP advocacy of market opportunity exploration in appreciating the potential for business development. We acknowledge that any such selection of sources is likely to have inherent and insuperable limitations, and that the selection of other frameworks might yield different results.

Tables 5, 6, 7 and 8 summarize the core constructs from the four selected papers, accompanied by a brief description of each construct for ease of comprehension. Additional references are provided for each construct, linking them to the wider BoP literature. The evident overlap among individual items confirms the close relationship between SCM and SSCM. The results of the frequency analysis are also indicated, so avoiding repetitive explanation, however we will discuss them further in section 4.1.

Table 5: Supply chain management constructs (based on Chen and Paulraj, 2004)

Construct	Description	Examples in BoP literature	Frequency
Antecedents			
Environmental uncertainty	Supply chain uncertainties arising from inconsistencies in supply and demand and technological unpredictability	(Arora and Romijn, 2012; Webb *et al.*, 2010)	6 (7.8%)
Customer focus	Central to contemporary business strategy, reflecting the importance of customers in the formulation and execution of supply chain strategy	(Ghauri *et al.*, 2014; Chelekis and Mudambi, 2010)	19 (24.7%)
Top management support	The resources committed by business executives in formulating supply chain decisions on strategic purchasing, relationship development with supply chain partners and adoption of information technology	(Akula, 2008)	10 (13%)
Supply strategy			
Competitive priorities	Company preference to compete on the basis of cost, quality, speed, dependability or flexibility	(White, 1996)	0
Strategic purchasing	Proactive and long-term focus in making purchasing decisions that will drive the firm's success	(Kistruck *et al.*, 2013; Arnould and Mohr, 2005)	12 (15.6%)
Supply chain integration			
Information technology	Presence and mode of electronic transactions and communication for the efficient flow of information among supply chain actors	(Berger and Nakata, 2013; Gino and Staats, 2012)	9 (11.7%)

Logistics integration	The backbone of the modern supply chain, providing the necessary infrastructure to successfully meet market demands through seamless logistics integration based on regular lines of communication for exchanging information about the three cornerstones of logistics: warehouses, inventory and transportation between buyer and seller	(Vachon and Klassen, 2006; Chen and Paulraj, 2004 for SCM); (Vachani and Smith, 2008; Viswanathan *et al.*, 2009)	8 (10.4%)
Supply network structure	An intermediate form of market governance mechanism, involving inter-firm relations and informal social systems linked through a network	(Karamchandani *et al.*, 2011; Parthasarathy, 2010)	46 (59.7%)
Buyer-supplier relationships			
Supplier base reduction	Indices measuring the "reduced number of suppliers, contractual agreements and supplier retention policies utilized by buying firm" (Chen and Paulraj, 2004, p. 125).	(Lim *et al.*, 2013; Gold *et al.*, 2013)	2 (2.6%)
Long-term relationships	Strategically managed trustworthy long-term relationships with key suppliers in particular and other supply chain actors in general, impacting positively on firm performance	(Galariotis *et al.*, 2011a; Hill, 2010)	56 (72.7%)
Communication	The efficient exchange of information and interaction among supply chain actors	(Nakata and Weidner, 2012; Ray and Ray, 2011)	45 (58.4%)
Cross-functional teams	Organizing cross-functional and (in certain cases) supplier-involved teams to oversee such strategic operations as product design, strategic purchasing and supplier selection	(Ramachandran *et al.*, 2012)	2 (2.6%)
Supplier involvement	The extent of involvement of suppliers in the product development phase	(Hall *et al.*, 2014; Schrader *et al.*, 2012)	19 (24.7%)
Supply chain performance			
Supplier performance	The performance of suppliers as measured by their compliance with performance frontier criteria defined by the buying firm	(Agnihotri, 2013; Reficco and Marquez, 2012)	6 (7.8%)
Buyer performance	Buying firm performance as measured by operational and financial performance indicators		0

Table 6: Sustainable supply chain management constructs (based on Seuring and Müller, 2008)

Construct	Description	Examples in BoP literature	Frequency
Sustainability antecedents			
Pressure from governance	The first of three triggers of sustainability, referring to pressure from egulatory authorities to make supply chains more sustainable	(Schrader *et al.*, 2012)	1 (1.3%)
Pressure from customers	Second trigger of sustainability, referring to pressure from customer groups requiring firms to be more sustainable in their business operations	(London and Hart, 2004b)	1 (1.3%)
Pressure from stakeholders	Third trigger of sustainability, representing a wider pressure group that includes all stakeholders directly or indirectly affected by the relevant business activities	(Hudnut and DeTienne, 2010; Perez-Aleman and Sandilands, 2008)	7 (9.1%)
Sustainability dimensions			
Economic risk management	Strategies and practices adopted by a firm to manage the economic risks associated with its business operations in a given market	(Akula, 2008; Kistruck *et al.*, 2011)	18 (23.4%)

Social risk management	Compliance of the focal firm and its suppliers with certain social standards (e.g., SA 8000)	(Hall *et al.*, 2012; Mena *et al.*, 2010)	7 (9.1%)
Environmental risk management	Focal firm activities and efforts to make its suppliers—and, in the process, itself—greener, normally indicated by extent of compliance of supply chain actors with environmental standards (e.g., ISO 14001)	(Seelos and Mair, 2007)	5 (6.5%)
Performance			
Win-win	The ultimate aim of a sustainable supply chain management strategy, in which all stakeholders, including the environment and society, can benefit from sustainable supply chain activities	(Berger and Nakata, 2013; Van den waeyenberg, Sofie and Hens, 2012)	45 (58.4%)
Trade-off	Compromising on the three sustainability objectives (economic, environmental and social) in order to achieve good economic performance as defined by operational objectives such as cost, quality, speed, dependability and flexibility	(Olsen and Boxenbaum, 2009)	1 (1.3%)
Minimum criteria	The basic environmental and social standards or compliance criteria set by the focal firm for its suppliers to be regarded as order qualifiers	(Ahlstrom, 2010)	1 (1.3%)
Supplier evaluation			
Importance of supplier selection	The significance for the focal firm's business strategy of selecting a reduced number of optimal suppliers	(Gold *et al.*, 2013; Lim *et al.*, 2013)	5 (6.5%)
Supplier self-evaluation	The requirement that suppliers must explicitly declare their compliance with social and environmental standards		0
Auditing and monitoring suppliers	Monitoring of suppliers by the focal firm for compliance with social and environmental standards in support of sustainable supply chain management	(Kistruck *et al.*, 2013)	4 (5.2%)
Implementation of environmental standards	Focal firm demand for implementation of environmental standards by suppliers, mainly in response to customer pressure	(Gold *et al.*, 2013)	4 (5.2%)
Implementation of social standards	Focal firm demand for implementation of social standards by suppliers, mainly to satisfy customers	(Mena *et al.*, 2010)	4 (5.2%)
Supplier integration	Communication and coordination with suppliers to integrate them seamlessly into focal firm activities for more efficient achievement of sustainability objectives	(Halme *et al.*, 2012; Ramachandran *et al.*, 2012)	25 (32.5%)
Supply chain management			
Communication and coordination with suppliers	Enhanced communication and active coordination with suppliers as a prerequisite for supplier integration and sustainable supply chain management	(Ramani *et al.*, 2012; Berger *et al.*, 2011)	32 (41.6%)
Total life cycle	Product life cycle (or overall supply chain) perspective with particular focus on reverse logistics and remanufacturing issues	(Hart and Dowell, 2011; Hart, 2005)	6 (7.8%)
Cost and profit sharing	Business models based on cost and profit sharing to develop the performance and standards compliance capabilities of disadvantaged supply chain actors	(Ramachandran *et al.*, 2012)	2 (2.6%)
Joint innovation	Aggressive involvement of suppliers in focal firm innovation activities as a consequence of active supplier integration in a sustainable supply chain	(Bardy *et al.*, 2012; Chatterjee, 2014)	55 (71.4%)
Third party involvement			
For auditing and monitoring	Involvement of third parties like NGOs in supplier auditing and monitoring activities, which is sometimes more useful than focal firm involvement	(Gold *et al.*, 2013; Perez-Aleman and	5 (6.5%)

	or dependence on supplier information about compliance with environmental and social standards	Sandilands, 2008)	
As enabler/consultant	Involvement of stakeholders like NGOs, government agencies and educational/research institutes in implementation and compliance with environmental and social standards and developing performance related capabilities of disadvantaged supply chain actors	(Kaplinsky, 2011; Rivera-Santos and Rufin, 2010)	32 (41.6%)

Table 7: Sustainable supply chain management constructs (based on Carter and Rogers, 2008)

Construct	Description	Examples in BoP literature	Frequency
Strategy			
Sustainability	Strategically driven pursuit of activities that will impact positively not only on its "natural environment and society but which also result in long-term economic benefits and competitive advantage for the firm"	(Varadarajan, 2014, 2014; Arnold and Williams, 2012)	23 (29.8%)
Organizational culture			
Deeply ingrained	Organization-wide long-range vision generating an internal drive to change the corporate culture and mindset to align with the organization's triple bottom line strategy	(Akula, 2008; Kistruck *et al.*, 2011; Ray and Ray, 2010; Hudnut and DeTienne, 2010)	16 (20.7%)
Organizational citizenship	An "organizational culture which considers the welfare of others and which is fair and supportive" in the effort to align its economic interests with the greater interests of society	(Akula, 2008, 2008; Ansari *et al.*, 2012) (Hall *et al.*, 2012; Mena *et al.*, 2010)	37 (48%)
Values and ethics	An organizational culture based on "core values and cultures and a sense of purpose beyond the economic bottom line"	(Olsen and Boxenbaum, 2009; Schrader *et al.*, 2012)	26 (33.7%)
Transparency			
Stakeholder engagement	To avoid any grey areas in the sustainable business operations, "transparency includes not only reporting to stakeholders, but actively engaging stakeholders and using their feedback and input to both secure buy-in and improve supply chain processes"	(McMullen, 2011; Vachani and Smith, 2008)	45 (58.4%)
Supplier operations	Coordination with suppliers to increase the transparency of the purchasing process and supplier sustainability while lowering transaction costs (e.g., performing sustainability audits of supply chain operations)	(Sánchez and Ricart, 2010; Schrader *et al.*, 2012)	24 (31.1%)
Risk management			
Contingency planning	"Supply chain risk management can occur through contingency planning….", embracing the concept of security in supply chain operations to identify 'plan B' to manage any anticipated future risks	(London *et al.*, 2010)	25 (32.4%)
Supply disruptions	Building resilient supply chains to avoid supply chain risks arising from natural disasters, poor supplier quality, shipment quantity inaccuracies, legal liabilities and poor environmental and social performance that might result in costly legal actions	(Karamchandani *et al.*, 2011; London and Hart, 2004b)	15 (19.4%)
Outbound supply chains	Coordinating with different stakeholders to build more agile supply chains in order to avoid risks arising from poor demand forecasting and	(Schuster and Holtbrügge, 2012; Vachani and Smith,	12 (15.5%)

	failure to coordinate demand requirements across the supply chain	2008) Kistruck *et al.*, 2011)	

Table 8: Sustainable supply chain management constructs (based on Pagell and Wu, 2009)

Construct	Description	Examples in BoP literature	Frequency
Design/Innovation capability			
Business process	Signifying organizational capabilities to go beyond lean and total quality management practices and to develop innovative business models that can integrate "economic and non-economic elements of sustainability"	(Seelos and Mair, 2007; Van den waeyenberg, Sofie and Hens, 2012)	57 (74%)
Product	Pioneering product design changes leading to products that are safer for the environment and users, which remains the hallmark of sustainable organizations targeting niche markets	(Sesan *et al.*, 2013)	48 (62.3%)
Managerial orientation towards sustainability			
Guiding value	The "guardrail" that "was tightly tied to the business model, protected the brand and was used to guide decision making"	(Viswanathan *et al.*, 2009)	20 (26%)
Alignment of economic, social and environmental goals	Proactive top management working toward formulation of business strategies in which environmental and/or social goals and activities can complement economic activities of the firm (and vice versa)	(Webb *et al.*, 2010; Weidner *et al.*, 2010)	29 (37.6%)
Proactive and commitment	Prerequisite for sustainability-led formulation of strategic goals and operational activities	(Varadarajan, 2014; Perez-Aleman and Sandilands, 2008)	47 (61%)
Supply chain reconceptualization			
Who is who in supply chain	Rethinking who is in the supply chain before allocating specific roles and responsibilities to supply chain members	(Pervez *et al.*, 2013)	45 (58.4%)
Collaboration with non-traditional members	Searching for and actively coordinating a wide spectrum of non-traditional supply chain actors as a prerequisite for making supply chain operations sustainable	(Reficco and Marquez, 2012; Rivera-Santos and Rufin, 2010)	66 (85.7%)
Supply base continuity			
Transparency	"Transparency provides insight into what is happening in the chain and enables improvements... transparency also has a strong element of social responsibility because it ensures that no one in the chain is being abused."	(Rivera-Santos *et al.*, 2012)	14 (18.1%)
Traceability	A novel form of information sharing to reduce the risk triggered by suppliers knowingly or inadvertently using material and/or processes that could harm people and/or the environment	(Schrader *et al.*, 2012)	6 (7.7%)
Supplier certification	Safeguarding purchasing activities against potential economic, social or environmental risks through supplier certification in respect of social and environmental issues	(Gold *et al.*, 2013)	5 (6.5%)
Decommoditization	Practices for moving suppliers from commodity status to strategic partner status	(Hall *et al.*, 2012; Kaplinsky, 2011)	31 (40%)
Traditional supply chain practices			
Investment in human capital	To make supply chains more socially sustainable	(Bardy *et al.*, 2012; Berger *et al.*, 2011)	32 (41.6%)

Closed-loop supply chains	Using reverse logistics or closed-loop supply chains to reduce the environmental impact of supply chain operations	(Vachani and Smith, 2008)	4 (5.2%)
Economic viability/profitable supply chain			
Economic viability/profitable supply chain	Achieving economic viability of supply chain/business operations without compromising sustainability objectives	(Berger *et al.*, 2011)	58 (75.3%)
Rewards and incentives for sustainable outcomes			
Rewards and incentives for sustainable outcomes	Intrinsic or extrinsic compensation offered to employees of an organization "for pursuing environmental and/or social improvements"	(Galariotis *et al.*, 2011; Gino and Staats, 2012)	8 (10.4%)

While there is some overlap among these constructs, this is not decisive for the methodology applied here. More importantly, these constructs encompass a wide range of topics that are central to (S)SCM, and as the aim is to evaluate their use in BoP-related research, this comprehensiveness should prove advantageous in providing detailed insights.

4.3. Research methodology

As the core methodology of this paper, a literature review can be defined as "a systematic, explicit, and reproducible design for identifying, evaluating and interpreting the existing body of recorded documents" (Fink, 2014). The present review followed the process proposed by Hart (2001). It should also be mentioned that a set of SSCM constructs advanced by Beske and Seuring (2014) was used in a related paper to analyse the same body of literature (Khalid *et al.,* 2015). The present analysis is wider, not least because it also takes account of constructs from *traditional* SCM (Chen and Paulraj, 2004). The complementarity of these approaches will be further discussed in section 5.

In line with Seuring and Gold (2012), the present study is delimited by the following boundaries. BoP papers were collected using the Web of Science database and search engine (http://www.webofscience.com). The two key phrases *base of the pyramid* and *bottom of the pyramid* were used to select papers, as these are used interchangeably in the BoP literature. The search was conducted in the research domains of business and economics, social sciences and other topics and operations research and management sciences and was confined to papers published in English-speaking peer-reviewed journals during the period 2000–2014. The search was independently carried out by a second researcher and then double-checked. Decision on including a paper into the sample or excluding it, were discussed among the two researchers. This initial search yielded a total of 212 papers. After eliminating duplicates (step 1 of the literature review process), that number was reduced to 136 articles of potential relevance. A subsequent process of reading, analysing and discriminating (step 2 of the literature review process) further reduced the final number of papers to 77. In that second step (and in line with the study objectives), only those papers mentioning one or more (S)SCM constructs derived from Chen and Paulraj (2004), Seuring and Müller (2008), Pagell and Wu (2009) and Carter and Rogers (2008) were selected. Those addressing such issues as factors affecting purchasing decisions of BoP customers and the impact of institutions on BoP consumers were excluded as irrelevant to the aims of the study. Following this content screening, each of the 77 BoP papers was coded against (S)SCM constructs; only those papers mentioning a particular construct specifically in the context of the BoP business environment are coded against that construct.

The involvement of multiple researchers (in this case three) in coding a subset of five papers helped to ensure the validity and reliability of the overall process. However, beyond this pilot phase coding, the rest of the selected papers were coded by a single researcher, who requested help only in ambiguous cases. To ensure construct validity, papers were coded with the original description in mind; coding also followed the original interpretations of constructs.

Following completion of the coding phase, the frequencies of individual constructs were calculated—that is, the number of occurrences of a particular construct as compared to the base sample. For a thorough understanding of the subject matter, pair relationships among constructs were explored using contingency analysis, where contingency indicates that two constructs are interrelated without specifying causality, leaving this open to theoretical interpretation. To ensure more reliable results, only contingencies among constructs with frequencies of at least 10% of the base sample are considered here. Based on the contingency findings (Tables 9, 10, 11 and 12), SCM-focused and SSCM-focused models were developed (see Figures 6 and 7).

4.4. Results and findings

The BoP concept has evolved rapidly in recent years (Kolk *et al.*, 2014). Close analysis of the yearly distribution of the selected articles indicates that the BoP research stream increased from 2010 onwards (see Figure 8). The spike in the number of BoP articles published in the years 2010 and 2012 is accounted for by two special issues of the *Journal of Business Research* (JBR) addressing sustainability-related aspects of BoP.

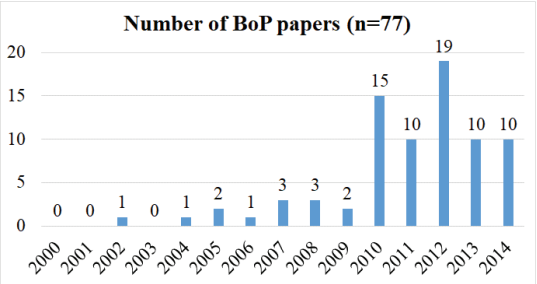


Figure 8: Yearly distribution of BoP papers

The journal-specific distribution of BoP papers in Appendix A reveals that although BoP scholars have published work across multiple business and management journals, certain periodicals stand out in this extensive list. Specifically, the Journal of Business Research (JBR) is the leading publication, followed by the Journal of Business Ethics (JBE). We turn next to the detailed results of the construct-driven literature review.

4.4.1. Frequency analysis

The first step of the analysis was to assess the frequencies of single constructs and items. As explained above, the selected BoP papers have been coded accordingly, enabling identification of the core constructs referred to in this body of literature.

4.4.2. Supply chain management constructs

As noted earlier, BoP papers were coded against the SCM constructs developed by Chen and Paulraj (2004). Figure 9 indicates that these papers regularly refer to certain SCM constructs considered essential in addressing the unique business challenges of informal markets. These include top management support (Sinkovics *et al.*, 2014; Seelos and Mair, 2007; Sánchez and Ricart, 2010); information technology (Weidner *et al.*, 2010; Parthasarathy, 2010; Gino and Staats, 2012); strategic purchasing (Hudnut and DeTienne, 2010; Gino and Staats, 2012); customer focus (Viswanathan *et al.*, 2009; Viswanathan *et al.*, 2012); supply network structure (Parthasarathy, 2010; Reficco and Marquez, 2012); communication (Kistruck *et al.*, 2013; Hudnut and DeTienne, 2010); long-term relationship development (Sesan *et al.*, 2013; Schuster and Holtbrügge, 2014); logistics integration (Vachani and Smith, 2008) and supplier involvement in new product development (Agnihotri, 2013; Arnould and Mohr, 2005). This confirms the relevance of Chen and Paulraj's (2004) arguments in advancing the BoP agenda.

An emphasis on building long-term relationships with supply chain partners is regarded as one of the most striking characteristics of the BoP business environment (Viswanathan *et al.*, 2012), and the frequencies count confirms this, as long-term relationships are mentioned in 56 of the 77 papers (72.7%). Establishing such relationships with BoP communities is imperative for social embeddedness and ultimately helps in developing co-inventing capabilities (Sinkovics *et al.*, 2014b; Ramani and Mukherjee, 2014b). Long-term relationships among supply chain actors depend on frequent and efficient communication and level of trust (Gold *et al.*, 2013; Morgan and Hunt, 1994). Additionally, 58.4% of the selected papers argued for wider communication across supply chain actors (that is, beyond suppliers). In a socially interactive BoP business environment, "consumers and sellers share information about products and services through face-to-face communication" (Weidner *et al.*, 2010), and less than optimal communication beyond the buyer seller dyad is seen to be a significant obstacle to realizing business potential in a BoP context (Karnani, 2007).

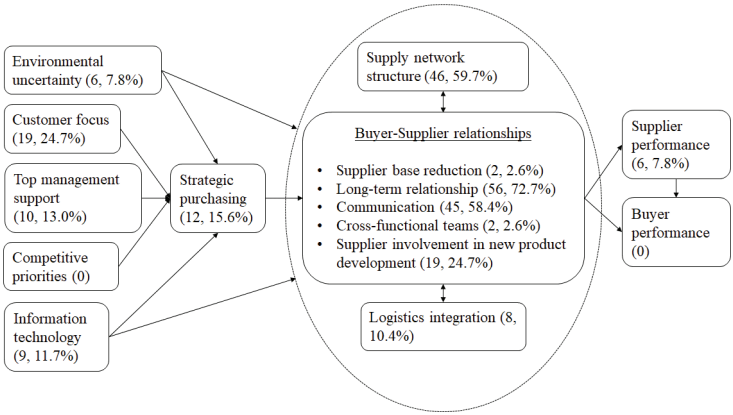


Figure 9: Frequencies of SCM constructs (Adapted from Chen and Paulraj, 2004)

Because BoP communities are bonded by strong social ties, long-term relationships and active communications serve to develop the focal firm's social capital (Reficco and Marquez, 2012), contributing to the establishment of networks (Hahn and Gold, 2014). Supply chain networks

characterized by informal social associations and intra-firm relationships (59.7%) play a crucial role in the development of inclusive business opportunities at the BoP level (Reficco and Marquez, 2012; Ansari *et al.*, 2012). However, network development remains dependent on the strategic purchasing goals set by top management. The results show that the SCM constructs of strategic purchasing and top management support were respectively addressed by 15.6% and 13.0% of the selected papers. Advocates of producer-oriented BoP campaign in particular for the inclusion in global supply chains of marginalized social segments as producers, arguing that the win-win objective cannot be realized unless firms rethink their strategic purchasing policies and include BoP producers as suppliers (Lim *et al.*, 2013; Arnould and Mohr, 2005). In other words, strategic purchasing policies should be mindful of the potential productivity of the BoP. As a proactive strategy, strategic purchasing requires investment in relationship building in BoP environments, which may lack professional business structures. Realization of strategic purchasing policy therefore depends on the active involvement of the focal firm's top management (Lim *et al.*, 2013) in supporting network development, primarily through mutual cooperation and long-term trust-based relationships, if they are to outperform their competitors in informal markets (Vachani and Smith, 2008). The active support of top management in formulating and implementing strategic purchasing policy is a pivotal driver of supply chains in BoP business environments. There is also evidence that networks play a crucial part in the innovation process by facilitating learning (Seelos and Mair, 2007; Hudnut and DeTienne, 2010). In fact, 24.7% of the selected papers considered it critical to involve suppliers in the development of new products and processes in order to satisfy the diverse and unique needs of BoP consumers. Increasingly, firms also use telecom and computer applications to assess and anticipate customer expectations in BoP environments (Parthasarathy, 2010). In particular, Ramachandran *et al.* (2012) highlighted process innovations to overcome logistics-related obstacles, and Berger and Nakata (2013) discussed the vital role of information technology in coping with a malfunctioning transport infrastructure, especially in the financial services industry. More generally, the communication and information technology industry plays a key role in addressing the unique challenges of BoP (Schuster and Holtbrügge, 2012), and Ray and Ray (2010) discussed how that industry has itself managed to develop within a resource-constrained environment.

Some key issues remain unexplored in this body of research. For instance, none of the selected papers explicitly mentioned the role of competitive priorities in strategic purchasing decisions or the impact of customer/buyer performance on the overall supply chain performance. Given the importance of such performance objectives for well-functioning supply chains, this omission is surprising but may indicate a need for further professionalization. As it can safely be assumed that even supply chains will pursue some core objectives, future research should seek to identify which of these are applied and why they have not been addressed in the existing research. Although the uncertainty that characterizes informal markets is considered a critical feature of BoP, only six of the selected papers discussed this issue (e.g., Arora and Romijn, 2012; Webb *et al.*, 2010). Similarly, while the active support of executives is considered prerequisite in formulating a profitable business plan for BoP (Gold *et al.*, 2013; Schrader *et al.*, 2012), few of these papers have commented on the active involvement of top MNC management in market entry and operational strategies in this context. Other neglected questions include the impact of supplier base reduction and the significance of cross-functional teams for more efficient BoP supply chain operations. Although (Vachani and Smith, 2008) have illustrated how logistics integration can help to access a dispersed consumer base, concrete

logistical alternatives to overcome the daunting challenge of malfunctioning or missing communication and transport infrastructure have yet to be identified.

4.4.3. Sustainable supply chain management constructs

Certain SSCM constructs feature more prominently in the reviewed articles. As shown in Figure 10, the most often discussed of the SSCM constructs developed by Pagell & Wu (2008), Seuring and Müller (2008) and Carter & Rogers (2009) is collaboration with non-traditional supply chain members (85.7%). Building collaborative relationships with non-traditional stakeholders and involvement of third parties (41.6%) to compensate for foreign firms' meagre BoP market knowledge are regarded by some as qualifying criteria for entry to BoP markets (Calton *et al.*, 2013; London and Anupindi, 2012; Rivera-Santos *et al.*, 2012; McMullen, 2011; Arnold and Valentin, 2013). This practice remains vital in the search for outside-the-box solutions to meet the unique needs of BoP consumers (VanSandt and Sud, 2012; London and Anupindi, 2012). An economically viable supply chain can be achieved only by means of this kind of mutual cooperation (Calton *et al.*, 2013); however, while the BoP literature frequently advances this agenda (75.3%), alignment of economic, social and environmental goals (37.6%) in developing the BoP business case appears to have been downplayed. Additionally, the sustainable competitive advantage that features among the core aims of any business strategy cannot be realized unless all actors receive their fair share of the value generated by the supply chain, and creation of win-win scenarios (58.4%) remains the prime goal of any SSCM strategy (Seuring and Müller, 2008). Surprisingly, although the win-win debate is a frequent topic, the discussion seems to be dominated by the firms' perspective on managing the economic risks associated with their business activities (e.g., Tashman and Marano, 2010) while ignoring how deprived BoP participants must confront the challenge of economic insecurity. The clear link between top management support, economic risk management and supplier integration (Table 9) suggests that active integration of BoP suppliers is seen primarily as a means of safeguarding the economic interests of MNCs in the volatile environment of informal market economies (Sánchez and Ricart, 2010; Ray and Ray, 2010; Ramachandran *et al.*, 2012). Surprisingly, the constructs of environmental and social risk management are rarely addressed in the BoP debate, with respective frequencies of 6.5% and 9.1%, and further research is needed in this regard. From a supply chain perspective, more specific proposals are needed to address the risk management aspects of minimizing supply disruptions (19.4%) caused by fragile transportation and communication infrastructure in BoP markets and how outbound supply chains (15.5%) can be re-designed to mitigate supply chain risks.

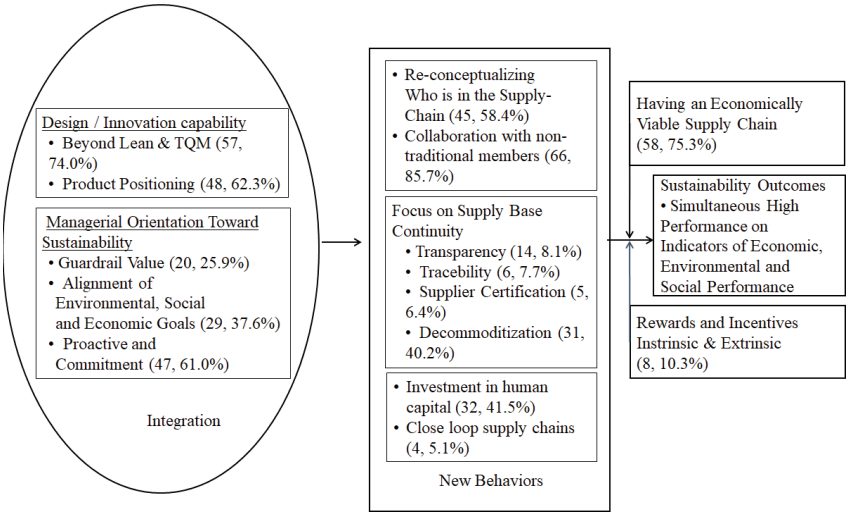


Figure 10: Frequencies of SSCM constructs (Adapted from Pagell & Wu, 2009)

In the supplier-oriented BoP literature, certain supplier development-centered constructs are common in BoP debate, including supplier integration (32.5%) (Ramachandran *et al.*, 2012); decommoditization (40.2%) (London *et al.*, 2010); communication and coordination with suppliers (41.6%) (Pervez *et al.*, 2013); and supplier operations (31.7%) (Reficco and Marquez, 2012). However, the literature review also reveals that some supplier development-oriented topics have been overlooked; these include supplier certification (6.4%) (Gold *et al.*, 2013); transparency (18.1%) (Ray and Ray, 2010); traceability (7.7%) (Mena *et al.*, 2010); importance of supplier selection (6.5%) (Hill and Mudambi, 2010); and auditing and monitoring of suppliers (5.2%) (Kistruck *et al.*, 2013). The findings also indicate that the BoP literature advocates a market-based development agenda for the creation of win-win scenarios for all stakeholders on a sustainable and more or less voluntary basis, and the integration of indigenous entrepreneurs with limited financial and technological capabilities as suppliers in global supply chains is a cornerstone of the partner-oriented BoP literature (Shivarajan *et al.*, 2013; Perez-Aleman and Sandilands, 2008; Reficco and Marquez, 2012). More marginal constructs in the BoP debate include pressure on the corporate sector to become more sustainable, exerted by government entities or other stakeholders, including customers.

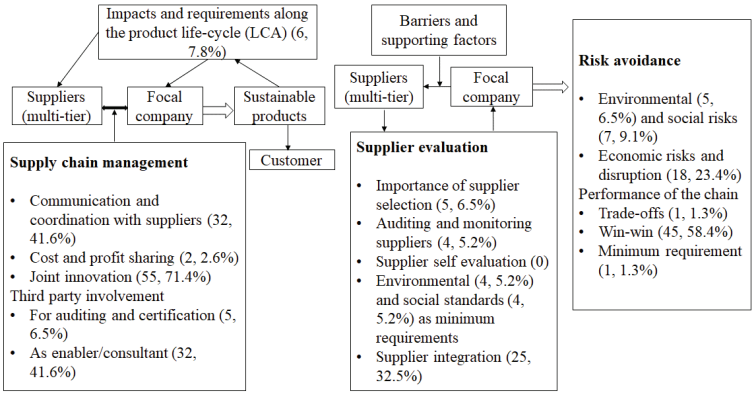


Figure 11: Frequencies of SSCM constructs (Adapted from Seuring and Müller, 2008)

While importance of supplier selection is considered significant for business success in BoP (Lim *et al.*, 2013; Hill and Mudambi, 2010), this and other constructs related to supplier evaluation need more vigorous exploration in the context of emerging economies. Given the uncertainty that characterizes informal markets, and the lack of institutional infrastructure to oversee contract enforcement, there is a need for innovative approaches to supplier evaluation. In this regard, rigorous research is needed to evaluate the viability or adaptability of current concepts or to devise novel approaches to supplier evaluation in particular and, more generally, to evaluation of supply chain partners. The total life cycle (TLC) approach has been marginally addressed in the BoP literature; Agnihotri (2013) and Ramachandran *et al.* (2012) reported how the construct of cost and profit sharing was successfully applied to help marginalized communities to escape the vicious circle of poverty. However, this construct remains largely beyond the scope of current BoP debate. Finally, a few studies have discussed the promising consequences of third party involvement in auditing and monitoring the activities of supply chain partners (Kistruck *et al.*, 2011; Mena *et al.*, 2010).

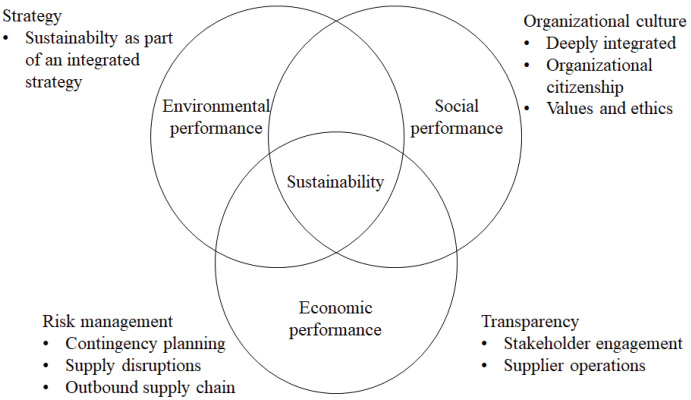


Figure 12: Frequencies of SSCM constructs (Adapted from Carter & Rogers, 2008)

4.5. Contingency analysis

To more fully understand scholarly perspectives on BoP, the findings of the literature review were subjected to a contingency analysis. The contingency analysis helped to infer causality in informal economies by identifying correlations between pairs of constructs without specifying the direction of association, leaving this open to theoretical interpretation. According to Gold *et al.* (2010, p. 235), "a contingency analysis detects positive association patterns between categories, i.e., it identifies pairs of categories which occur relatively more frequently together in one paper than the product of their single probabilities would suggest." Contingency is measured in terms of the phi-coefficient (φ); a value of $\varphi > 0.3$ indicates a significant association between two constructs or categories, and the higher the value of φ, the stronger is the association (Gold *et al.*, 2009; Fleiss *et al.*, 2003). The value of φ provides only an indication of these relationships, based on the frequency of occurrence of particular constructs. In this way, contingency analysis offers scope for theoretical interpretation of observed associations among constructs.

The results presented here include contingencies among SCM constructs (Table 9), SSCM constructs (Table 10 and 11) and SCM and SSCM constructs (Table 12). As mentioned earlier, Tables 5, 6, 7 and 8 provide brief descriptions of the individual constructs used in the model. The process of coding BoP papers against (S)SCM constructs and subsequent exploration of whether and how (S)SCM constructs are correlated in the context of BoP has helped to clarify the general relationship of BoP research to (S)SCM constructs and the respective research streams.

4.5.1. Contingencies among SCM and SSCM constructs

This section discusses both the contingencies among SCM constructs as informed by Chen and Paulraj (2004) and the contingent relationships of SCM and SSCM constructs from Pagell and Wu (2009), Carter and Rogers (2008) and Seuring and Müller (2008). Table 9 shows contingencies established among Chen and Paulraj's (2004) SCM constructs, and Table 12 shows contingencies between those constructs and SSCM constructs from the other three papers.

Based on the contingencies in Table 9 and Table 12, the (S)SCM model in Figure 13 illustrates the major relationships among constructs; box size is an approximate indicator of construct frequencies. All contingent relationships are shown in the model, other than that between information technology and customer focus (Table 9) (Chen and Paulraj, 2004). These two constructs are distinct from the main body of the model because they are not contingent with any other construct derived from the four base papers. The relevant core constructs from Chen and Paulraj (2004) are strategic purchasing and long-term relationship, which yielded the highest number of contingencies to other items (six contingencies per construct). This is interesting because although long-term relationship was frequently referred to (56 papers), strategic purchasing was mentioned in only 12 papers. Despite this low frequency, strategic purchasing exhibited a high number of contingencies, emphasizing MNCs' strategic investment in sourcing decisions and the construct's relevance to the relationship with suppliers, as most other items can be subsumed under this wider term (Ray and Ray, 2011; Viswanathan *et al.*, 2009). The importance of strategic sourcing decisions and of relationship building in BoP markets is further endorsed by the high relevance of long-term relationships, as shown by its high number of contingencies and its high frequency count. Similarly, supplier integration as

discussed by Seuring and Müller (2008) returned eight contingencies. With the highest number of contingencies, strategic purchasing, long-term relationship and supplier integration are therefore the core constructs in this model. The clear logical links between supplier integration and long-term relationship and between supplier integration and strategic purchasing need no further explanation (Ramachandran *et al.*, 2012). The link between long-term relationship and who is who in the supply chain reflects concerns about re-conceptualizing the individual roles of supply chain actors in informal markets, with particular reference to producers or indigenous entrepreneurs, and about nurturing relationships for the purposes of building trust (Arnould and Mohr, 2005). As the supply network structure is to some extent determined by the long-term orientation of stakeholder relationships, the relationship between supply network structure, stakeholder engagement and long-term relationship is unsurprising (Chesbrough *et al.*, 2006).

The use of a communication related construct by both Chen and Paulraj (2004) and Seuring and Müller (2008) would almost suggest condensing this into a single construct. However, communication and coordination with suppliers (Seuring and Müller, 2008) is more precise and shows a frequency of only 32 as compared to 45 for the wider communication construct of Chen and Paulraj (2004). Communication of product requirements and customer demands to suppliers as one foundation for BoP projects aligns with the findings of Khalid et al. (2015), which also emphasize the centrality of these concepts for management of supply chains in a BoP context. It is also unsurprising, then, that supplier involvement in new product development is related to supplier integration, communication and coordination, as well as to strategic purchasing (Gold *et al.*, 2013). The relationship of supplier involvement in new product development with two constructs from Pagell and Wu (2009)—decommoditization and product innovation—refers to arguments in the BoP literature concerning the potential benefits for MNCs of treating BoP suppliers as strategic partners. As has been repeatedly argued, indigenous entrepreneurs have a better understanding than foreign MNCs of consumer needs and preferences in the BoP. Active involvement of indigenous entrepreneurs in new product development not only enhances MNCs' product innovation capabilities but is also a vital aspect of supplier development strategy, leading to the integration of suppliers as strategic partners (Kaplinsky, 2011). This argument is reinforced by the link between supplier involvement in new product development and product innovation and decommoditization (Schrader *et al.*, 2012).

The link between strategic purchasing and identifying win-win situations is well established (Kistruck *et al.*, 2013). If the *right* suppliers are identified, it may be possible to produce at the BoP and source from the BoP as well as supplying to BoP customers.

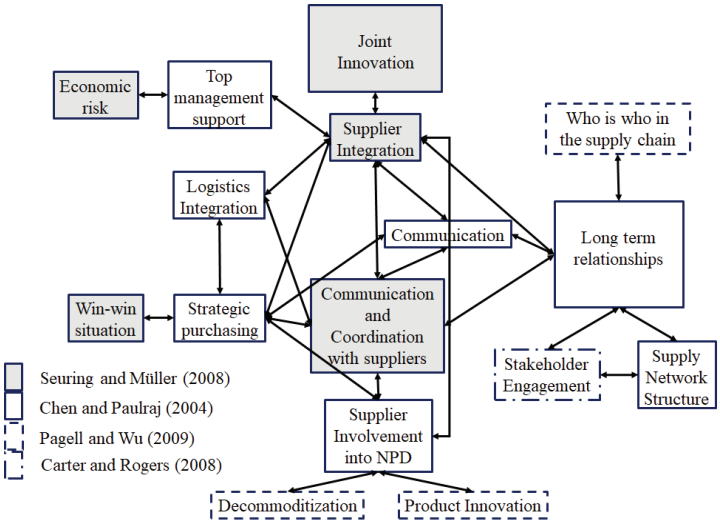


Figure 13: (Sustainable) supply chain model

Logistical integration also shows three contingencies and is closely connected to a number of constructs mentioned above (Vachani and Smith, 2008). In line with the arguments made earlier, top management support is linked to supplier integration on the one hand (Lim *et al.*, 2013) and to economic risk on the other. The link to economic risk is quite surprising but may be explained by the economic rationale that top management must typically keep in mind (Olsen and Boxenbaum, 2009) in pursuing a BoP project (Schrader *et al.*, 2012), which can be seen as quite risky from a conventional investment perspective.

Table 9: Contingency results among SCM constructs

Contingent variables		Phi-Coefficient	Approximate Significance	Exact Significance (1-sided)	Observed frequency	Expected frequency
Constructs from Chen & Paulraj (2004)						
Customer focus &	Information technology	0.354	0.002	0.006	7.79	2.86
Strategic purchasing &	Communication	0.362	0.001	0.001	15.58	9.09
Strategic purchasing &	Supplier involvement in new product development	0.335	0.003	0.007	9.09	3.90
Strategic purchasing &	Logistics integration	0.44	0	0.002	6.49	1.56
Supply network structure &	Long term relationship	0.449	0	0	53.25	43.51
Long term relationship &	Communication	0.608	0	0	55.84	42.47

Table 10: Contingency results among SSCM constructs (in individual SSCM papers)

Contingent variables		Phi-Coefficient	Approximate Significance	Exact Significance (1-sided)	Observed frequency	Expected frequency
Constructs from Seuring & Müller (2008)						
Supplier integration &	Communication and coordination with suppliers	0.71	0	0	29.87	13.51
Supplier integration &	Joint innovation	0.316	0.006	0.004	29.87	23.25
Constructs from Pagell & Wu (2008)						
Guiding value &	Proactive and commitment	0.352	0.002	0.001	23.38	15.84
Proactive and commitment &	Who is who in SC	0.353	0.002	0.002	44.16	35.71
Proactive and commitment &	Economic viability/profitable SC	0.346	0.002	0.003	53.25	45.97
Who is who in SC &	Decommoditization	0.424	0	0	33.77	23.51
Who is who in SC &	Investment in human capital	0.39	0.001	0.001	33.77	24.29
Who is who in SC &	Economic viability/profitable SC	0.434	0	0	53.25	44.03
Transparency &	Decommoditization	0.437	0	0	15.58	7.27
Decommoditization &	Investment in human capital	0.382	0.001	0.001	25.97	16.75
Decommoditization &	Economic viability/ profitable SC	0.408	0	0	38.96	30.39
Constructs from Carter & Rogers (2009)						
Sustainability as part of an integrated strategy &	Values and ethics	0.314	0.006	0.007	16.88	10.13
Deeply ingrained &	Organizational citizenship	0.34	0.003	0.003	16.88	10.00
Deeply ingrained &	Values and ethics	0.447	0	0	15.58	7.01
Supplier operations &	Contingency planning	0.491	0	0	20.78	10.13

Table 11: Contingency results among SSCM constructs (among three SSCM papers)

Contingent variables		Phi-Coefficient	Approximate Significance	Exact Significance (1-sided)	Observed frequency	Expected frequency
Constructs from Seuring & Müller (2008) and Pagell & Wu (2008)						
Win-win &	Proactive and commitment	0.407	0	0	45.45	35.71
Win-win &	Who is who in supply chain	0.305	0.007	0.007	41.56	34.16
Supplier integration &	Product innovation	0.31	0.007	0.006	27.27	20.26
Supplier integration &	Who is who in supply chain	0.303	0.008	0.007	25.97	18.96
Supplier integration &	Decommoditization	0.562	0	0	25.97	13.12
Supplier integration &	Investment in human capital	0.485	0	0	24.68	13.51
Supplier integration &	Economic viability/profitable SC	0.333	0.004	0.002	31.17	24.42
Communication and coordination with suppliers &	Transparency	0.354	0.002	0.002	14.29	7.53
Communication and coordination with suppliers &	Decommoditization	0.597	0	0	31.17	16.75
Communication and coordination with suppliers &	Investment in human capital	0.305	0.007	0.007	24.68	17.27
Joint innovation &	Product innovation	0.458	0	0	54.55	44.55
Constructs from Seuring & Müller (2008) and Carter & Rogers (2009)						
Win-win &	contingency planning	0.416	0	0	28.57	18.96
Supplier integration &	supplier operations	0.491	0	0	20.78	10.13
Supplier integration &	contingency planning	0.348	0.002	0.004	18.18	10.52
Communication and coordination with suppliers &	supplier operations	0.4	0	0.001	22.08	12.99
Communication and coordination with suppliers &	supply disruptions	0.317	0.005	0.008	14.29	8.05
Joint innovation &	contingency planning	0.316	0.006	0.006	29.87	23.25
Constructs from Pagell & Wu (2008) and Carter & Rogers (2009)						

Guiding value by	Values and ethics	0.767	0	0	24.68	8.83
Alignment of economic, social and environmental goals by	Sustainability as part of an integrated strategy	0.605	0	0	24.68	11.30
Proactive and commitment by	Values and ethics	0.402	0	0	29.87	20.65
Proactive and commitment by	Contingency planning	0.383	0.001	0.001	28.57	19.87
who is who in SC &	Supplier operations	0.397	0	0	27.27	18.18
who is who in SC &	Contingency planning	0.36	0.002	0.001	27.27	18.96
Decommoditization &	Supplier operations	0.648	0	0	27.27	12.60
Decommoditization &	Contingency planning	0.392	0.001	0.001	22.08	13.12
Decommoditization &	Supply disruptions	0.332	0.004	0.005	14.29	7.79
Investment in human capital &	Supplier operations	0.4	0	0.001	22.08	12.99
Investment in human capital &	Contingency planning	0.316	0.006	0.006	20.78	13.51
Investment in human capital &	Supply disruptions	0.45	0	0	16.88	8.05
Economic viability/profitable SC &	Contingency planning	0.333	0.004	0.002	31.17	24.42

Table 12: Contingency results among SCM and SSCM constructs

Contingent variables		**Phi-Coefficient**	**Approximate Significance**	**Exact Significance (1-sided)**	**Observed frequency**	**Expected frequency**
Constructs from Chen & Paulraj (2004) and Seuring & Müller (2008)						
Top management support &	Economic risk	0.334	0.003	0.009	7.79	2.99
Top management support &	Supplier integration	0.31	0.007	0.011	9.09	4.16
Strategic purchasing &	Win-win	0.362	0.001	0.001	15.58	9.09
Strategic purchasing &	Supplier integration	0.467	0	0	12.99	5.06
Strategic purchasing &	Communication and coordination with suppliers	0.437	0	0	14.29	6.49
Long term relationship &	Supplier integration	0.362	0.001	0.001	31.17	23.64
Long term relationship &	Communication and coordination with suppliers	0.339	0.003	0.002	37.66	30.26

Communication &	Supplier integration	0.303	0.008	0.007	25.97	18.96
Communication &	Communication and coordination with suppliers	0.337	0.003	0.003	32.47	24.29
Supplier involvement in new product development &	Supplier integration	0.632	0	0	20.78	8.05
Supplier involvement in new product development &	Communication and coordination with suppliers	0.618	0	0	23.38	10.26
Logistics integration &	Supplier integration	0.309	0.007	0.012	7.79	3.38
Logistics integration &	Communication and coordination with suppliers	0.317	0.005	0.008	9.09	4.29
Constructs from Chen & Paulraj (2004) and Pagell & Wu (2008)						
Long term relationship &	Who is who in supply chain	0.312	0.006	0.007	49.35	42.47
Supplier involvement in new product development &	Product innovation	0.383	0.001	0	23.38	15.32
Supplier involvement in new product development &	Decommoditization	0.39	0.001	0.001	18.18	9.87
Constructs from Chen & Paulraj (2004) and Carter & Rogers (2009)						
Supply network structure &	Stakeholder engagement	0.382	0.001	0.001	44.16	34.94
Long term relationship &	Stakeholder engagement	0.371	0.001	0.001	50.65	42.47

4.5.2. Contingencies among SSCM constructs (in individual papers):

As shown in Table 10, only two contingencies were identified from the Seuring and Müller (2008) framework. Supplier integration emerges as the central construct, along with communication and coordination with supplier, overlapping with Chen and Paulraj's (2004) constructs. By virtue of their high number of contingencies, two constructs advanced by Pagell and Wu (2009) emerged as central: decommoditization (8 contingencies) and who is who in the SC (7 contingencies). The contingent relationship between who is who in the supply chain and decommoditization, and of both of these constructs with investment in human capital and economic viability of the supply chain (Table 10), further strengthens the influence of these two constructs in the BoP literature. The pattern of contingencies of who is who in the supply chain and decommoditization clearly reflects a key debate in the BoP literature related to appreciation of BoP populations as suppliers in global supply chains and subsequent MNC investment to develop their core capabilities (Sinkovics *et al.*, 2014). The next section shows these constructs to be well connected to other constructs.

Turning to Carter and Rogers (2008), the three organizational culture-related constructs of values and ethics, organizational citizenship and a deeply ingrained culture attracted the highest number of contingencies and so assume central importance among Carter and Rogers' (2008)

constructs (Bardy *et al.*, 2012; Mena *et al.*, 2010). More precisely, organizational citizenship stands out with the highest frequency (48.0%), followed by values and ethics and a deeply integrated culture with frequencies of 33.7% and 20.7%, respectively (Figure 12).

4.5.3. Contingencies among SSCM constructs (among three SSCM papers)

For a fuller understanding of the research findings, along with the contingencies from Seuring and Müller (2008), Pagell and Wu (2009) and Carter and Rogers (2008) discussed briefly above, contingencies were also calculated for SSCM constructs from the three papers (Table 11). Interestingly, this generates a higher number of contingencies than among the individual papers. This may be explained in part by the partial overlap between the three frameworks, although each item was coded separately for individual assessment. The interplay and overall interpretation of contingencies will be outlined subsequently.

The results show that Carter and Rogers' (2008) construct of contingency planning has the highest number of contingencies, followed by supplier integration from Seuring and Müller (2008). Based on these contingencies from the three approaches to SSCM, a model was developed to facilitate easier comprehension of the core issues (Figure 14*)*; box size is an approximate indicator of construct frequencies. Beyond the overview of all contingencies in Table 11, the model is based on those constructs that we considered most significant. It is worth noting that although Carter and Rogers' (2008) construct of contingency planning returned the highest number of contingencies (9), the construct is not part of the model. Although viewed by Carter and Rogers (2008) as a key risk management strategy, we believe that contingency planning is almost always at play at every step of the supply chain and in almost every scenario, as no business model can be developed or implemented without pre-planning of risk management strategies for the various forms of associated risk. Although mentioned by various BoP scholars with a medium frequency of 32.4%, contingency planning can be considered a vital part of general supply chain risk management strategy but not as something unique to BoP supply chains.

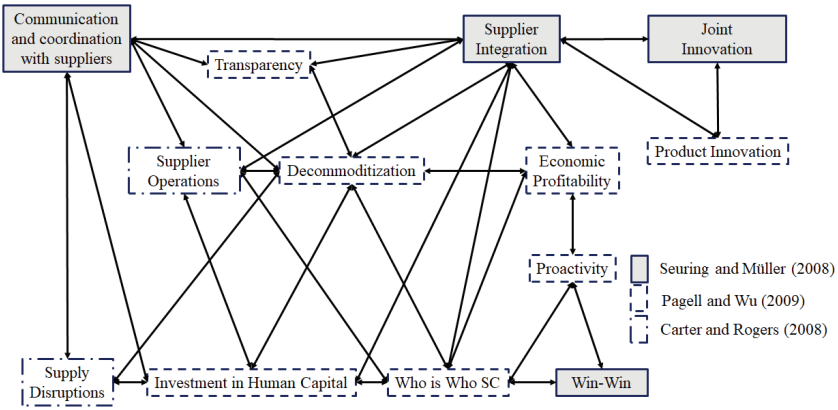


Figure 14: Sustainable supply chain model

Figure 14 illustrates the centrality of supplier integration and decommoditization. Indeed, supplier integration (9 contingencies in total; numbers in brackets); decommoditization (8); who is who in supply chain (7); investment in human capital (6); and supplier operations (5) are all contingent with each other. This emphasizes the centrality of these five items and suggests that each component must be taken into account. Close analysis of these five key constructs further reveals that all five are supplier development-focused (as already briefly mentioned in the discussion of frequencies in section 4.1.2), aligning with the debate on social issues in supply chain management (Yawar and Seuring, 2015; Ray and Ray, 2010). Supplier development is fundamental in BoP contexts, with debate focusing on the role of indigenous entrepreneurs in informal markets. Communication and coordination with suppliers (Seuring and Müller, 2008) is contingent with four of the five key constructs (supplier integration, decommoditization, supplier operations and investment in human capital), suggesting that active communication with supply chain actors in general and suppliers in particular provides a foundation for the wider BoP supplier development program (Gold *et al.*, 2013). This also bears on the issues of transparency and supply disruptions, both of which are contingent with communication and coordination with suppliers and decommoditization; transparency is contingent with supplier integration and supply disruptions with investment in human capital. The respective contingent relations of transparency and supply disruptions suggest that firms can pave the way for a smooth integration of indigenous BoP suppliers in their supply chain operations by treating their suppliers as strategic partners through efficient lines of communication and development of their supply chain capabilities (Perez-Aleman and Sandilands, 2008; Ramachandran *et al.*, 2012). By pursuing this kind of strategic approach to supplier integration, firms can not only address the issue of inconsistent supply lines in BoP but can also increase the transparency of their supply chain operations.

The remaining contingencies, relating to a number of other constructs, tend to confirm the arguments already made. The requisite innovation capabilities to meet the unique demands of BoP consumers are to an extent determined by the depth of relationships that foreign firms develop with the BoP community in general and indigenous suppliers in particular (Schrader *et al.*, 2012; Viswanathan *et al.*, 2009). On that basis, the contingent relationship of joint innovation with product innovation and with supplier integration is not unexpected. Similarly, the contingent relationship of economic viability of BoP supply chains with supplier integration, decommoditization and who is who in the supply chain is readily explained (Vachani and Smith, 2008).

Finally, a proactive approach on the part of top management remains crucial in developing economically viable supply chains and producing win-win outcomes for all stakeholders (Sánchez and Ricart, 2010). This is endorsed by the contingent relationship of proactivity with economic viability and win-win constructs. Re-conceptualizing who is part of the supply chain and what role they play remains a cornerstone of the strategies developed by proactive management to make BoP supply chains profitable and generate win-win solutions for all supply chain actors (Ramani and Mukherjee, 2014; Van den waeyenberg *et al.*, 2012).

4.6. Discussion

By linking (S)SCM constructs with BoP literature, this paper contributes to the enrichment of the BoP debate. The systematic literature review enables further insights to be gained and conclusions to be drawn from than the previous studies that have analyzed a more limited set

of BoP cases (Gold *et al*., 2013; Esko *et al*., 2013). The only similar approach (Khalid et al., 2015) did not integrate the *traditional* supply chain view and was confined to a much more limited SSCM perspective. In contrast, here the focus is on the centrality of integration constructs, representing various facets of a broad and comprehensive *supplier development program*, in both SCM- and SSCM-focused analyses.

The present findings highlight those (S)SCM constructs of relevance to BoP researchers and practitioners alike when addressing the unique challenges posed by informal markets. Based on a sound theoretical foundation, this review advances the case of integrating BoP into the (S)SCM debate (and vice versa). Given the frequency of discussion of *long-term relationship development*, *economic viability of supply chain* and *innovation related constructs*, it is reasonable to infer the BoP literature's support for the development of collaborative relationships among supply chain actors to facilitate the process of innovation. A process which is considered imperative in establishing economically viable businesses in informal economies (Chesbrough *et al.*, 2006; Elaydi and Harrison, 2010). The BoP literature emphasizes the development of trustworthy long-term relationships with traditional and non-traditional stakeholders, whether prosperous or destitute, boosting economic activity in the marginalized communities of informal market economies, as elaborated by Gold *et al*. (2013).

The (S)SCM literature's long tradition of research on capability development as well as strategically oriented supplier collaboration and integration has much to offer in developing the BoP research agenda. However, BoP should not be considered as just another aspect of the collaboration-centred (S)SCM literature. Rather, BoP markets demand novel solutions involving the apprehension of the unique conditions of informal market economies. This implies that business transactions are governed by market-specific informal institutions, instead of the practice of formal institutions overseeing market mechanisms in developed economies (Kolk *et al*., 2014). One of the prime obstacles concerning the development of BoP projects is missing or malfunctioning communication infrastructure. Upgrading this through government as well as BoP initiatives should facilitate sound communication and coordination with suppliers, benefiting both the BoP context and the wider business community. As another core theme of contemporary SCM research, logistics and logistical integration has focused mainly on developed economies. These issues are yet to be scrutinized in BoP contexts, and future research needs to address these challenges (Gold *et al*., 2012; Esko *et al.*, 2013).

The current BoP literature mainly comprises either case-based empirical studies or conceptual papers (Kolk *et al.*, 2014). More survey-based research is needed if we are to learn more about BoP itself beyond the immediate interests of foreign firms. The requisite empirical research to close the gap will illuminate the dynamics of doing business in BoP, but can also potentially open new frontiers of knowledge.

Another interesting finding was that Chen and Paulraj's (2004) competitive priorities related to cost, quality, speed, dependability and flexibility for driving supply chains in formal economies were scarcely to be seen in the selected BoP articles. While a few BoP scholars cited certain examples such as Nirma washing powder (Agnihotri, 2013) in an effort to argue that low cost, average quality products can be a success in BoP markets, concrete proposals have yet to be formulated. Similarly, the pressure from stakeholders, governance and customers that Seuring and Müller (2008) considered primary in forcing firms to manage their business operations more sustainably was barely of relevance in the BoP literature. This can be explained by the largely unsaturated and therefore non-competitive nature of BoP markets (Prahalad, 2006), in

which stakeholders including regional and national governments struggle to provide the basic amenities of life to poverty-stricken consumers rather than worry about being more environmentally friendly. This highlights the strategic decision making of MNCs and other actors before they invest in BoP projects, as argued by Schrader *et al*. (2012).

While the (S)SCM enabling factors identified by Chen and Paulraj (2004) and Seuring and Müller (2008) were barely considered relevant in the BoP literature, the *precursors* of SSCM developed by Pagell and Wu (2008)—innovation and proactive and committed management—have regularly been referred to in the BoP-related debate (Tashman and Marano, 2010). Similarly, the enabling SSCM constructs related to organizational culture, developed by Carter and Rogers (2009), have attracted comments from some BoP scholars. The present findings suggest that while the qualifying criteria for (S)SCM developed by Chen and Paulraj (2004) and Seuring and Müller (2008) seem inappropriate for BoP, the SSCM enabling factors developed by Pagell and Wu (2004) appear well suited to BoP markets, followed by those articulated by Carter and Rogers (2009).

Markman and Krause (2016) have recently advocated to prioritize sustainability goals and SSCM practices that focus first on enhancing *ecological health*, followed by nurturing *ethical standards to further social justice*, and a commitment to *improve economic vitality*. In contrast, the BoP literature seems to prioritize the economic agenda, sometimes overlooking the social and ecological costs of proposed business solutions for the development of deprived communities. (Hall *et al.*, 2012) sought to highlight the grey areas of economically driven policy frameworks designed to initiate entrepreneurial activity in BoP communities. To advance the sustainable development agenda in BoP communities, research must move beyond the purely economic rationale to incorporate social and ecological aspects of doing business in BoP contexts (Brix-Asala, C. *et al*., 2015).

Furthermore, the results of the literature review highlighted certain gaps and respective suggestions in the BoP literature to enable a sustainable development of marginalized societies by respective BoP initiatives. Table 13 shows the respective suggestions by BoP scholars and apparent gaps. This is concluded from putting the evaluations, presented in the extant paper, into the wider context of BoP related research and is based on thoughtful reasoning.

Table 13: Research gaps at the intersection of BoP and (S)SCM

Source	Suggestion	Related (S)SCM constructs	Gap	Examples of existing research
Kolk *et al.* (2014)	Integration of poor in supply chain network	Who is who in the supply chain (Pagell and Wu, 2009); Supplier integration in new product development (Chen and Paulraj, 2004); Supplier integration (Seuring and Müller, 2008)	BoP cases showing the integration of poor into supply chains	Rangan *et al.* (2011); London and Anupindi (2012)
Kolk *et al.* (2014)	Assessing outcomes of BoP initiatives	Supplier operations (Carter and Rogers, 2008); Economic profitability (Pagell and Wu, 2009)	Social and environmental performance	Mena *et al.* (2010); London and Hart (2004); Silvestre and Neto (2014)
Lim *et al.* (2013)	Innovation process, not	Product innovation (Pagell and Wu, 2009);	Innovation process in focal firm and	Halme *et al.* (2012); Ramani and Mukharjee (2014)

	only product innovation	Joint innovation (Seuring and Müller, 2008)	along the supply chain	
Dembek *et al. (2016)*	Shared value creation	Win-win situation (Seuring and Müller); Transparency (Pagell and Wu, 2009); Stakeholder engagement (Carter and Rogers, 2008)	Sharing value along the supply chain.	Varadarajan (2014)
Tulder *et al.* (2016)	Solving societal problems	Investment in human capital (Pagell and Wu, 2009)	Supply chains as institutional act	Ansari *et al.* (2012); Bardy *et al.* (2012)

Current BoP literature talks about inclusive business opportunities in BoP societies, while mainly advocating for incorporating BoP actors in entrepreneurial activity either as suppliers or as customers (Halme *et al.*, 2012; Reficco and Marquez, 2012). The literature thereby presents a limited perspective when it comes to defining the role of BoP actors in respective supply chains. Apparently, this view of the BoP literature has barred the concerned stakeholders from appreciating the diverse roles and activities open to BoP actors in global supply chains. BoP scholars are yet to come up with a more holistic view of entrepreneurial activities in BoP markets and have to explore more diversified roles for integrating members of marginalized societies in global supply chains (Kolk *et al.*, 2014).

As evident from Table 13, concerning the outcomes of BoP initiatives, though the mainstream BoP literature talks about the operational and economic performance, (related (S)SCM constructs are shown in Table 13 and also in Figure 13 and 14), social and environmental performance outcomes are apparently not appropriately addressed (Busse, 2016). In-spite of referring to social and environmental aspects of BoP initiatives by certain BoP scholars (Meena *et al.* 2010; London and Hart 2004; Silvestre and Neto 2014) concrete social and environment related constructs in context of BoP still need to be developed and respective issues be integrated into the BoP debate.

Even though it has been repeatedly argued for product innovation (Figure 14) in mainstream BoP literature (Arnould and Mohr, 2005), aspects related to the adjustment/modification of a focal firm's innovation process to accommodate the unique business environment of BoP are still insufficiently addressed. So far, product innovation itself (Ramani and Mukherjee, 2014) has been in focus.

A fair distribution of value generated across the entire supply chain remains a prerequisite for prosperity of all supply chain actors (Vachani and Smith, 2008). BoP literature strongly argues for the creation of win-win scenarios for the sustainable development of BoP communities (Arora and Romijn, 2012). The literature review revealed that concrete recommendations emphasizing and suggesting the course of action to be followed to ensure equitable distribution of wealth generated among BoP supply chain actors still need to be presented.

The work of Tulder *et al.* (2016) concerning solutions of societal problems through cross sector partnerships in BoP highlights the role partnerships can play in finding sustainable solutions to certain social dilemmas in BoP. An apparent research gap which needs to be addressed relates to the possibilities of institutionalizing supply chain resources in BoP to address social perils in BoP (Hall and Matos, 2010).

One potential opportunity for future research is to empirically validate the present findings. By highlighting and arguing for a range of (S)SCM concepts regularly discussed in BoP research discourse, we have tried to provide a foundation for future researchers. Interactions among the relevant (S)SCM concepts have also been elaborated. It seems worthwhile to undertake an empirical screening of the individual constructs and contingencies presented here, thereby enriching BoP research with practical recommendations that draw on the more robust research traditions employed to develop (S)SCM theories.

The present study has some limitations. Among these, the selection process and the number of papers included in this literature review might appear very selective. However, it is fair to observe that a thorough screening of all the available literature was neither the aim of the study, nor would this have been feasible. Instead, the intention was to acquaint the reader with theoretical tools that can be adopted from (S)SCM to analyse the corresponding challenges in BoP, thus integrating these research streams. More generally, not all available BoP papers were suitable for the subject matter as they did not correspond with the aims of this research in many cases. With regard to the (S)SCM constructs addressed in this literature review, we are confident that the selected (S)SCM practices and constructs from four widely cited papers were appropriate for an evaluation of the BoP literature. Nevertheless, the selective choice of constructs invites further research for a broader comparison. As well as using well-cited frameworks, we have tried to address the issue of construct validity by employing multiple researchers to analyse results and compile findings. However, we acknowledge that the reliability of the research remains limited because of the single-researcher approach to coding.

4.7. Conclusion

In seeking to address one of humanity's most serious contemporary challenges, BoP research remains at an embryonic stage and in need of stronger theoretical foundations. Poverty and development-related aspects of emerging economies have been addressed mainly from a more macroeconomic perspective by development economists (see for example the work of Amartya Sen). Nevertheless, BoP research has prompted management scholars to address the challenges of poverty by devising mechanisms for kick starting economic activity in impoverished societies.

Regional and national supply chains are now linked to global supply chains, making SCM a global matter and opening underdeveloped regions to inclusive business, potentially advancing the development agenda. The present paper highlights the potential collective contribution of (S)SCM theories to progressing the BoP agenda. However, further research is needed to evaluate the compatibility of current (S)SCM knowledge with the exclusive business environment of informal markets in emerging economies. In the relevant literature, certain practices developed in the context of supply chain operations in the so-called *developed* world have been found relevant in the context of the *developing* world. The paper also notes the natural association of (S)SCM practices with the BoP business environment as portrayed in the literature. While the respective supply chain practices address aspects of the development of a collaborative BoP business environment, questions about how to establish, manage and govern these mainly relationship-based collaborations in non-monetary terms remain unclear and require careful further scrutiny. The present findings also highlight how apparently central aspects of BoP like logistics and risk management have been overlooked in the BoP literature. As these and related topics are regularly discussed in the (S)SCM literature, management

researchers can hope to build on that literature in addressing these and other neglected issues to advance BoP research.

5. Supply chain practices influencing firm's purchasing performance in base-of-the-pyramid markets

The chapter represents an article to be submitted to a journal by author of this dissertation together with Prof. Dr. Stefan Seuring and Prof. Dr. Ralf Wagner as co-authors.

Abstract

Purpose:
To appraise the supply chain practices in backdrop of resource dependency theory having significant impact on indigenous firm's purchasing performance.

Design/methodology/approach:
Quantitative survey design was employed to collect data from sixty indigenous micro-entrepreneurs in Pakistan. The (sustainable) supply chain management ((S)SCM) constructs used in the questionnaire are taken up from well-versed published (S)SCM literature. The relevance of respective constructs in base of the pyramid (BoP) context have been evaluated by conducting frequency analysis focusing published BoP literature on *web of science*. Factor analysis and linear regression are used to investigate findings of the empirical research. Furthermore, resource dependency theory has been employed to further analyse the results of the study and BoP business environment.

Findings:
(S)SCM practices of partner development and communication and coordination with suppliers are found to have greatest impact on the purchasing performance of indigenous firms in business-to-business supply chains. Supply chain partner development appeared to have reciprocal while communication and coordination construct an inverse relationship with purchasing performance of indigenous micro-entrepreneurs in BoP. Analysing results of study in context of resource dependency theory revealed buyer – supplier associations in BoP symbolised by asymmetric power with respective actors involved in a dominance struggle.

Research limitations/implications:
Provided the time and resource constraints the study presents the results based on data gathered from only 60 respondents. The apparent limitation related to sample size however opens door for potential future research opportunities.

Originality/value:
With earlier empirical works in BoP literature being mainly focusing on business-to-customer linkages, this paper while aiming at business-to-business interactions in emerging economies will enrich the understanding of base of the pyramid business environment. The study will also introduce yet another theoretical infrastructure i.e. resource dependency theory to analyse BoP business case.

Keywords: Base-of-the-Pyramid, (Sustainable) Supply Chain Management, Empirical, Regression Analysis, Supplier Development, Buyer – Supplier Interaction.

5.1. Introduction

Emerging economies are increasingly being considered as new sources of learning and innovation for driving firm performance (Kaplinsky, 2011). The supply chain practices contributing towards achievement of the new performance and innovation frontiers therefore need to be explored carefully in context of the unique and predominantly informal business environment of emerging markets. Since making its way into lime light of intellectual attention in the past decade or so, base of the pyramid literature remained overshadowed by two debates. First, a more conceptual debate contemplating BoP business strategies either as consumer or producer or partner oriented deliberations (Prahalad, 2006; Karnani, 2007; London *et al.*, 2010). Second, a more strategic BoP debate "focused on product and distribution strategies tailored to consumers in these markets" (Arnould and Mohr, 2005). Moving ahead of the *traditional* topics, this paper tries to explore the operational dynamics of BoP supply chains propelling indigenous firm's purchasing performance. While keeping align with a partner oriented BoP approach, the paper presents results of a quantitative survey conducted in Pakistan, focusing on business-to-business (B2B) supply chains.

The aim of this paper is to highlight the respective (S)SCM constructs substantially effecting the purchasing performance of firm in B2B supply chains in a BoP setting. The (S)SCM constructs have been deductively derived from published (S)SCM literature. The relevance of the respective (S)SCM constructs used in the paper is assessed by conducting a literature review of 77 published BoP articles collected from *web of science* and published between 2000-2014 (to get a further insight into literature review process see Khalid *et al*. (2015) and Khalid and Seuring (2017)). The respondents of the study were selected from manufacturing and retail sectors without specifying any particular industry. Effect of both process and strategic dimensions of supply chain management on purchasing performance of BoP entrepreneurs is evaluated in the study. Technological integration aspects are taken as the core supply chain practices signifying process part of the supply chains in context of BoP. Furthermore, in line with arguments of (Ahlstrom, 2010) for the crucial nature of integration in BoP, this paper while contemplating work of Chen and Paulraj (2004) and Vachon and Klassen (2006) further explores *supplier* and *customer* dimensions of technological integration in driving the BoP supply chains. The strategic part of the BoP supply chains is signified by constructs of supply chain partner development and supply network structure (Chen and Paulraj, 2004).

Furthermore, the theoretical relevance of the results of the study have been assessed by using the arguments of resource dependency theory. In this way while further enriching the theoretical grounding of the research, we have tried to assess if the nature and effect of respective (S)SCM constructs on purchasing performance of the firm highlighted in findings of the study can be justified theoretically.

Concerning the organization of this paper, the next section presents a brief literature review on the subject matter and familiarises reader with BoP, resource dependency theory and the core (S)SCM constructs used in the paper. Section three elaborates the research methodology. The succeeding section four presents findings of the empirical survey followed by discussion presented in section five. A brief conclusion is presented at the very end of the paper.

5.2. Literature Review

5.2.1. Base-of-the-Pyramid

Contrary to arguments of Friedman (1988), profit is no more considered as sole motive of doing business particularly in emerging economies (Ahlstorm, 2010). "Ingrained in notion of inclusive capitalism", BoP literature argues for an enterprise-driven strategy for creation of economically viable business models to kick start economic activity in BoP markets (Ansari *et al.*, 2012). From a strategic perspective BoP literature can be generally divided into three sub-

streams. First, a *consumer centred* BoP approach presents BoP market as a long forgotten potentially lucrative market of billions of "value conscious consumers" (Prahalad, 2006; Arnold and Williams, 2012). Second, a *producer centred* BoP strategy, while appreciating BoP population as potential suppliers, producers, co-owners and/or customers considers BoP market as a "hot bed" of future innovations (Karnani, 2007; Agnihotri, 2013). Third, a recent *partner oriented* BoP strategy contemplates a holistic perspective while calling for taking on-board all the traditional and non-traditional stakeholders to formulate economically viable business strategies for BoP aiming at poverty elimination (London *et al.*, 2010). Nevertheless, by and large there remains a consensus in the BoP literature concerning the centrality of business in designing poverty alleviation strategies.

Business operation in BoP, focused at involving disadvantaged parts of societies as part of production or distribution processes, highlight the criticality of management of respective supply chains sustainably (Gold *et al.*, 2013). Involvement of BoP actors in upstream (as producers) or downstream (as distributors) supply chains in informal markets of developing countries is particularly challenging from a supply chain management perspective, as it implies dealing with a "large number of small transactions", thereby tremendously increasing the transaction costs (Sodhi and Tang, 2014). Devising mechanism to ensure fair distribution of supply chain surplus among the disadvantaged supply chain actors on account of illiteracy and poor marketing power is yet another steep hill to climb for supply chain researchers (Sodhi and Tang, 2016). These obstacles to inclusive business opportunities in BoP can however be tackled with, by formulating strategies of "establishing cross-sector partnerships" and taking wide array of traditional and non-traditional stakeholders on board (Matos and Silvestre, 2013). (S)SCM with a rich tradition of stakeholder focused research can help provide useful insights for development of inclusive business models to address social, economic and environmental issues on sustainable basis at BoP (Meixell and Luoma, 2015). While (S)SCM research can potentially provide viable answers to certain challenges faced by BoP scholars a research gap is evident since "… current research on the interface between supply chain management and BoP business operation is lacking" (Gold *et al.*, 2013).

"The growing importance of supply chain management has led to an increasing recognition of the strategic role of purchasing, which has recently evolved and expanded from buying to procurement and supply management" (Paulraj *et al.*, 2006). Furthermore, in the context of relationship based business environment of BoP (Kistruck *et al.*, 2011; Ansari *et al.*, 2012), the accumulation of relational capital (Kale *et al*., 2000) should be seen as a crucial part of firm's long term business strategy in BoP. Earlier BoP works suggest the firms who remain successful in building their relational capital in BoP communities will reap benefits in the long run (Galariotis *et al.*, 2011; London and Anupindi, 2012). Therefore relationship building not only remains a business qualifying criteria but also has strategic implications for focal firm's sustainable performance in BoP supply chains (Hall and Matos, 2010).

5.2.2. Resource dependency theory (RDT):

While considering business entities operating in an uncertain market scenario, RDT tries to explain relationships of an organization with its external environment. Considering business entities not being internally self-sufficient, RDT proposes it is imperative for organizations to interact with other organizations in order to fulfil their strategic resource requirements (Pfeffer, 1972; Paulraj and Chen, 2007). This interaction with other organizations to get access to resources creates interdependencies. Business organizations are inclined to intentionally establish these relationships in order to decrease environmental uncertainty and their dependence upon other firms (Ulrich and Barney, 1984). In their seminal work Pfeffer and Salancik (1978) have elaborated on the strategic options employed by organizations to decrease interdependence and uncertainty in their peripheral business environment. RDT theorists propose, respective organizations try to manage interdependencies and uncertainty by acquiring

control over strategic resources (resources which firms are unable to get access to/manufacture internally). Control over critical resources not only helps firms gain greater power but also make external organizations more dependent upon them (Barringer and Harrison, 2000). Increasing dependence of external organizations upon itself thereby remains one among the strategic objectives focal firm tries to achieve by establishing inter-organizational relationships. Assertions of RDT can be summarized as; firms engage in inter-organizational relationships in an uncertain external business environment to (1) get access to strategic resources and while doing so (2) decrease their dependence upon external firms (3) increase dependence of external firms upon themselves and (4) decrease uncertainty in their external environment.

The five alternative strategic options proposed by RDT that can be used by firms to achieve the above mentioned objectives are (1) mergers/vertical integration (2) inter-organizational relationships like joint ventures (3) board of directors (4) political action, and (5) executive succession (Paulraj and Chen, 2007). Researchers have extensively studied inter-organizational relationships focusing each of these strategic alternatives in their individual capacity, however, Hillman *et al.* (2009) concludes "we know very little about how these different strategies may interact and influence one another".

In this study we will use RDT to look into inter-organizational relationships in the volatile business environment of the BoP. The perspective of RDT on relationships a firm develops and maintains with its external business affiliates are summarized by Pfeffer and Salancik (1978, pp. 26-27) as:

1. The fundamental units for understanding intercorporate relations and society are organizations.
2. These organizations are not autonomous, but rather are constrained by a network of interdependencies with other organizations.
3. Interdependence, when coupled with uncertainty about what the actions will be of those with which the organizations interdepend, leads to a situation in which survival and continued success are uncertain
4. Organizations take actions to manage external interdependencies although such actions are inevitably never completely successful and produce new patterns of dependence and interdependence.
5. These patterns of dependence produce inter-organizational as well as intra-organizational power, where such power has some effect on organizational behaviour.

It can be seen that while focusing on resources, interdependence and power RDT proposes that organizations can reduce uncertainty in their external resource supplies (Bode *et al.*, 2011). RDT further asserts that uncertain external environment fosters organizations to engage in developing external business relationships. Furthermore, speaking in context of RDT Bode *et al.* (2011) highlighted a surge in information collection relative to increase in uncertainty in firm's external business environment. The argument also upholds the reported extensive exchange of information among business entities to offset effects of volatile business environment of BoP (Arnould and Mohr, 2005). However, the exchange of information among firms and the resulting inter-organizational associations demand careful evaluation in context of *asymmetric power* enjoyed by interacting partners and resulting unbalanced relationships. One should keep afore that RDT considers a firm's power being a product of various resources it has on its disposal (Pfeffer and Salancik, 1978).

5.2.3. Core (S)SCM constructs:

Potentially lucrative informal markets of developing world have started gaining attention of intellectuals and practitioners (Kolk *et al.*, 2014). Primarily, the informal markets of developing countries in particular, and the respective societies served by these markets in general are referred to as base of the pyramid (BoP) in contemporary management literature (the word pyramid implies 'world income pyramid'). The apparent little consensus on concrete definition

of base of the pyramid (BoP) in literature is quite in line with argument of Gladwin *et al*. (1995, p. 876) who maintains "definitional diversity is to be expected during the emergent phase of any potentially big idea of general usefulness". While some scholars used income yard stick for defining BoP (Arnold and Williams, 2012), the authors of this paper buy the arguments of Hart (2010) and London and Hart (2011) and consider all the participants of informal markets who are "generally excluded from the current system of global capitalism" as part of BoP population.
Supply chain management (SCM) embracing management of all the various actors and processes involved in the movement of products and services from an ultimate supplier to an ultimate consumer (Chen and Paulraj, 2004) embraces constructs also present in BoP related literature. Correspondingly, sustainability part of supply chain management dealing with integration of triple bottom line concepts in supply chain management discourse also speak about many issues apparently part of traditional BoP debate (Gold *et al*., 2013). While defining sustainable supply chain management (SSCM), Pagell and Wu (2009) maintain that a sustainable supply chain is "one that performs well on both traditional measures of profit and loss as well as on an expanded conceptualization of performance that includes social and natural dimensions". Since this paper discusses constructs taken simultaneously from SCM and SSCM literature and because of the evident overlaps in both of the concerned theories (e.g. in case of constructs of innovation and supply chain integration), the paper for sake of convenience refers to both of the respective theories together as (sustainable) supply chain management (S)SCM.
The (S)SCM constructs used in the paper have been selected while keeping afore their relevance to propositions of resource dependency theory presented in the section 4.2.2. Furthermore, the respective constructs have been understood as they have been presented in the key papers the constructs have been taken from and are presented in Table 14. It is worthwhile to indicate here that the supply chain partner development construct in this study is a cumulative construct representing the respective constructs of long term relationship development (Chen and Paulraj, 2004), supplier operations (Carter and Rogers, 2008), and investment in human capital (Pagell and Wu, 2009). The supply chain partner development concept is further enriched based on the arguments of Wagner (2011) and considered in this study against a buyer-supplier relationship management paradigm. The strength of buyer-supplier relationship is therefore taken as a moderator impacting focal firm's supply chain partner development activities to increase its purchasing performance. Furthermore, buyer – supplier interaction is signified by construct of communication and coordination with suppliers. *Appendix B* indicates that the construct connotes exchange of business related sensitive information among the interacting partners.
Apart from the (S)SCM constructs defined in Table 14, two other terminologies i.e. *power or bargaining power* and *private information* have also been used in the paper which need to be outlined.
Power/bargaining power in context of RDT is understood as a product of various critical resources a firm has on its disposal. The term critical resources indicate the resources respective firm is unable to produce internally and thereby is bound to obtain from external supply chain actors by developing various forms of inter-organizational relationships. A relatively powerful firm thereby is one which is able to produce more of its needed resources internally and thereby less dependent upon its external environment. On the other hand, *private information* is understood as the classified business related information that enables a supply chain actor to earn higher rents or enable it gain competitive advantage over its competitors.

Table 14: Brief explanation of (S)SCM constructs taken up in the study

(S)SCM constructs	Source	Description
Strategic purchasing	Chen and Paulraj, 2004	The construct is "conceptualized by its proactive as well as long-term focus, its contributions to the firm's success, and strategically managed supplier relationships".
Communication and coordination with suppliers	Seuring and Müller, 2008; Chen *et al.*, 2004	The efficient exchange of critical and sensitive information related to operational and strategic issues and collaborative relationship maintained by the focal firm with its various suppliers
Technological integration	Vachon and Klassen, 2006	The construct represents "the tacit knowledge sharing taking place between a buying and a supplying organization in strategic areas like product development, process reengineering, and technical training".
Supply chain partner development	Chen and Paulraj, 2004; Carter and Rogers, 2008; Pagell and Wu, 2009 and Wagner, 2011	The process by which buying firm strives to develop its suppliers as strategic partners by developing their operational and human capabilities based on intensity of mutual business relationships
Supply network structure	Chen and Paulraj, 2004	The construct explains "non-power based relationships and inter-firm coordination as well as the informal social systems that are linked through a network of relationships".
Innovation	Beske and Seuring, 2014 and Lim *et al.*, 2013	The innovation construct connotes product "innovation that is 'new to the market' or 'new to the world".
Purchasing performance	Wagner, 2011 and White, 1996	Performance indicates purchasing performance of focal firm in a dyadic buyer-supplier relationship context.

5.3. Theory and hypothesis

5.3.1. Business relationships in BoP in context of RDT

The relationship based business environment of BoP demands firms to invest heavily in building and maintaining relationships (Ansari *et al.*, 2012). Though trustworthy long-term relationship development with indirect supply chain actors has also been emphasized in related literature, efficient connections with direct supply chain partners in context of social nature of business in BoP remains a business qualifying criteria in BoP (Calton *et al.*, 2013). As has been mentioned earlier, RDT maintains, one among the very basic purpose of inter-organizational relationships is to counter the negative effects of an uncertain and volatile business environment. Extensive relationship building evident in BoP are therefore a consequence of its peculiar indeterminate external business environment (Ghauri *et al.*, 2014). Furthermore, one can infer that with increasing uncertainty in firm's external business environment, an increase in width and breadth of inter-organizational relationships will be evident. The highly social nature of business in BoP thereby is also an indication of its extreme uncertain business environment. BoP firms in order to build and maintain these relationships can therefore be anticipated to become actively engaged in activities that foster long term relationship

development (Khalid *et al.*, 2015). Practices like joint product development, supplier integration, partner development by investing in ones' human and operation capabilities and other related activities, can therefore assumed to be evident in BoP business relations. Business performance of BoP firms is thereby dependent upon the extent to which a firm engages in activates related to relationship development.

In line with the aim of the study and focusing purchasing performance in context of RDT, we can anticipate that indigenous BoP firms will actively engage in relationship development related activities in order to decrease uncertainty in their purchasing related practices. Uncertainty reduction in purchasing activities will thereby help respective firms boost their purchasing performance. As has been mentioned in section 2.2, supply chain partner development construct in this paper represents various relationship development related practices, we can therefore say:

> ***Hypothesis 1:*** *BoP firm's engagement in inter-organizational relationship development related activities (represented by supply chain partner development construct in the study) is positively related to respective firm's purchasing performance.*

RDT asserts that during their engagement in inter-organizational relationships respective firms try to decrease their dependence upon the external environment and increase dependence of external business entities upon themselves. The objective is achieved by getting access to and controlling critical resources. The two factors i.e. control over critical resources and the resulting decrease in dependence upon external environment help focal firm increase its power relative to other business associates. Power and dependence therefore remain the two prime underlying constructs playing crucial role in defining the nature of inter-organizational relationships.

We would also like to refer to a similar debate in marketing related literature to clarify the point further. Focusing power and considering mode of communication among the transacting parties of informal nature (referred to as cheap talk), Farrell and Gibbons (1995) maintain "… cheap talk cannot reveal any information if the producer has all the ex post bargaining power, but that cheap talk can be fully informative if the bargaining power is shared in the appropriate fashion". Accordingly Caniëls and Gelderman (2007) maintain that, one can infer the criticality of certain underlying factors like power and interdependency when informal communications are governing a dyadic buyer – supplier relationship. The marketing literature suggests that vertical coordination can provide optimum benefit only if the respective entities are symmetrically dependent upon each other and thereby bargaining power is shared more or less evenly (Buvik and John, 2000; Caniëls and Gelderman, 2007). Farrell and Gibbons (1995) have shown that in cheap talk scenario asymmetric bargaining power leads to non-voluntary disclosure of private assets by disadvantaged exchange partner. Buvik and John (2000) therefore argue that communication and coordination can have either "positive or negative effects depending on the level of exposed assets".

BoP firms certainly enjoy no exception to the rule. Despite their extensive interactions, power enjoyed by respective firms outline the nature of their respective inter-organizational relationships. If the BoP firms enjoy asymmetric power, the interaction among them can be imagined to be of opportunistic in nature, with each actor trying to maximize its own power. All this in effort of managing interdependencies in one's own favour. Buyer – supplier interaction in form of informal communication and coordination in BoP, and in context of propositions of RDT and arguments poised in marketing related literature will tend to drain power of disadvantaged actor. The powerful actor in the dyadic relationship by exposing, getting access to and controlling private assets/resources of disadvantaged actor will try to increase its power and decrease its dependence upon the other party. The power focused and

self-centred interaction among the transacting actors will thereby have detrimental impact on business performance of the disadvantaged interacting actor.
The paper looks into effect of interaction among transacting actors on buying firm's purchasing performance with in a buyer – supplier relationship domain. As has been mentioned in section 2.2, the buyer – supplier interaction for exchange of business related sensitive information is signified by construct of communication and coordination with suppliers. In line with RDT related arguments presented above we can hypothesize:

Hypothesis 2: *A positive correlation between communication and coordination with supplier and purchasing performance will denote a symmetric dyadic power association at play in BoP buyer – supplier relationships.*

Hypothesis 3: *A positive correlation between communication and coordination with supplier and purchasing performance will denote respective actors in dyadic relationship not struggling to gain power over each other.*

Hypothesis 4: *A negative correlation between communication and coordination with supplier and purchasing performance will denote an asymmetric dyadic power association at play in BoP buyer – supplier relationships.*

Hypothesis 5: *A negative correlation between communication and coordination with supplier and purchasing performance will denote a power struggle going on with advantaged (powerful) actor trying to get access to/control over resources of disadvantaged actor in buyer – supplier relationships in BoP.*

5.4. Research methodology:

The BoP research has mainly dealt with business-to-consumer issues (Kolk et al., 2014). The evolving state of BoP research in general and novelty of focusing B2B issues in BoP in particular, warrant employing exploratory research techniques to generate new ideas or hypothesis (Neuman, 2012). Furthermore, since the primary data of the study is collected form indigenous micro-entrepreneurs by administering personal interviews, the study follows an inductive research approach.

5.4.1. Survey instrument

Among the three most common methods of conducting surveys the data for this research was collected in face-to-face personal interviews using a seven point Likert scale structured questionnaire. While administering the interviews other relevant information was also sought and recorded by taking field notes. The side line information thus gathered helped reveal a clearer picture of subject matter and thus further enriched the survey findings.

5.4.2. Survey design

Coming towards the sampling design, the data for this study was gathered from micro-entrepreneurs operating in Pakistan without specifying any particular industry to focus at. Employee size being less than 15 has been take as defining criteria for inclusion of respective firms in the sample. However, it is worthwhile to mention here that in most of the cases the employee size of sample firms was less than 10. The data was collected between November 2015 and March 2016. In absence of any reliable and up-to-date databases of indigenous SMEs in the country, snowball sampling technique was employed to collect data. The sample was drawn from the micro-entrepreneurs having their operations in three cities of Pakistan i.e. Lahore, Rawalpindi and Islamabad. A total of sixty interviews were conducted with entrepreneurs in manufacturing and retail sectors. The respondents interviewed for this study represented such industries as garments, home appliances, auto spare-part, steel, wooden furniture, marble tiles and electrical equipment. A typical interview lasted for about 30-45

minutes, with interviewee filling the questionnaire and interviewer assisting him for clarifying any ambiguities.

5.4.3. Data Analysis

After completing the data collection phase of the study the interview results were first coded and later analysed using SPSS. First of all, the reliability of the constructs used in the study was tested by calculating Cronbach's alpha (α) value for individual constructs. Constructs with α-values greater than 0.7 were taken as being significant (Table 15). Following this, factor analysis was conducted for respective significant constructs to check the validity of items formulating individual constructs used in the survey. A threshold value of 0.450 was used and all the items with factor loadings less than the threshold value were considered as insignificant and therefore discarded (in total twelve items were rejected). The two purification procedures left us with *seven* constructs (one *dependent* and six *independent*) and *twenty-six* items (Table 15). It is worthwhile to mention here that the innovation construct was not considered for regression analysis as the single item signifying the construct was discarded based on the lower factor loading value.

Finally, regression analysis being a " statistical tool for the investigation of relationships between variables" (Sykes, 1993) was used, while having purchasing performance construct as dependent variable. In line with aim of this study, the effort helped to explore the particular (S)SCM constructs having most significant impact on and responsible for the considerable variation in purchasing performance of firm in a BoP setting.

5.4.4. Reliability and validity:

"Reliability is the degree of dependability, consistency or stability of a scale" (Wen-li *et al.*, 2003). As mentioned above the reliability of the study was ensured by calculating α-values. Only the particular constructs with α-values greater than 0.7 are used in the study (Bagozzi and Yi, 1988; Cohen, 1992) .

The validity of the results presented in this paper are confirmed by assessing the *content* and *construct* validity. The content validity of the study was ensured first by taking all the different items used in the study by conducting a comprehensive literature review and second by consulting two experienced researchers to clarify for any ambiguities in items and questionnaire (Chen *et al.*, 2004). The construct validity was assessed based on the factor loading values of items used to collect data related to individual constructs. Not only the items with cross-loaded values but also those having factor loading less than 0.450 are not taken into account while cumulating results of the study.

Table 15: Reliability and validity test results

Constructs	Initial factor loadings	Revised factor loadings	Cronbach's alpha values for constructs
Strategic Purchasing			0.835
SP1	0.744	0.744	
SP2	0.766	0.766	
Communication and coordination			0.786
CM1	0.679	0.679	
CM2	0.761	0.761	
CM3	0.619	0.619	
CM4	0.605	0.605	
Technological integration with customers			0.709
TIC1	0.432	-	

TIC2	Cross-loaded	-	
TIC3	0.463	0.463	
Technological integration with suppliers			0.782
TIS1	0.806	0.806	
TIS2	0.703	0.703	
TIS3	0.714	0.714	
Supply chain partner development			0.715
SPD1.1	0.456	0.456	
SPD1.2	0.462	0.462	
SPD2.1	0.848	0.848	
SPD2.2	0.906	0.906	
SPD2.3	0.976	0.976	
SPD2.4	0.831	0.831	
Supply chain network structure			0.702
SNS1	0.385	-	
SNS2	0.348	-	
SNS3	0.475	0.475	
SNS4	0.321	-	
SNS5.1	0.361	-	
SNS5.2	Cross-loaded	-	
SNS5.3	0.391	-	
SNS5.4	0.314	-	
SNS6.1	0.699	0.699	
SNS6.2	0.720	0.720	
SNS6.3	0.887	0.887	
SNS6.4	0.863	0.863	
SNS6.5	0.368	-	
SNS6.6	0.644	0.644	
Innovation			Formative construct
I1	0.329	-	
Purchasing performance			0.951
PP1.1	0.826	0.826	
PP1.1	0.930	0.930	
PP1.1	0.953	0.953	
PP1.1	0.956	0.956	

5.5. Findings:

"The BoP approach, … can be thought of as an emergent 'metanarrative'— a grand synthesizing framework which provides scholars and practitioners at diverse sites with a template for future research and action aimed at creating market based solutions for poverty eradication" (Chatterjee, 2014). This section of the paper while presenting results of the regression analysis comments on the hypothesis presented earlier in the context of RDT.

The regression model has brought forth the two constructs namely *supply chain partner development* and *communication and coordination with suppliers* as the ones responsible for significant variation in the purchasing performance of BoP micro-entrepreneurs in dyadic buyer – supplier interactions (Table 16 and Table 17).

Table 16: Regression model

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1.	(Constant)	-7.188	0.993	-7.236	0.000
	Supply chain partner development	0.817	0.068	11.986	0.000
2.	(Constant)	-4.868	1.475	-3.300	0.002
	Supply chain partner development	0.812	0.066	12.255	0.000
	Communication and coordination with suppliers	-0.172	0.082	-2.082	0.042

As indicated in Table 16 both independent variables are significantly correlated with dependent variable ($p < 0.05$).

The prominence of the two (S)SCM practices in explaining the variation in focal firm's performance is indicated by respective values of R. As shown in Table 17, supply chain partner development is responsible for 70% of variation in firm purchasing performance while supply chain practice of communication and coordination accounts for 72% of change in focal firm's purchasing performance.

Table 17: R-square values

(S)SCM Practices	R square	Adjusted R square
Supply chain partner development	0.712	0.707
Communication and coordination with suppliers	0.733	0.723

The nature of association of the respective (S)SCM constructs with the purchasing performance is further studied in the backdrop of RDT to enrich findings of the study and assess the respective hypothesis presented above.

Supply chain partner development and purchasing performance:

The regression model indicates that the supply chain partner development construct is significantly positively related to purchasing performance. As mentioned earlier, RDT theorists advocate that in an uncertain market environment firms are inclined to develop inter-organizational relationships to safeguard their business interests. Firms operating in tentative markets therefore can be seen involved in activities fostering development and maintenance of long term relationships with external business actors. The correlation between the supply chain partner development construct (denoting such activities as long term relationship development, supplier operations and investment in human related capabilities) and purchasing performance was highly expected in BoP markets. The positive correlation between the two constructs in our case signify criticality of trust worthy relationships in a volatile business environment to decrease purchasing related uncertainty and thereby avert respective risks. The findings of this study thereby validate *Hypothesis: 1*, and therefore we maintain that indigenous firms anxious in building relationships with their suppliers and actively involved in supplier development related activities experience an improvement in their purchasing performance.

Table 18: Hypothesis accepted/rejected

Hypothesis	Accept/reject	Conclusion
Hypothesis 1	Accept	Firms having higher relational capital experience improvement in their purchasing performance
Hypothesis 2	Reject	Micro-entrepreneurs in BoP are not engaged in a symmetric power relationship with their suppliers
Hypothesis 3	Reject	Buyer – supplier relationships in BoP are interactions in which each actor is trying to manage dependencies in its own favor by accumulating more resources
Hypothesis 4	Accept	Indigenous micro-entrepreneurs engaged in a buyer – supplier association in BoP can be regarded as having asymmetric power and thereby involved in a power struggle as suggested by RDT
Hypothesis 5	Accept	

Communication and coordination with suppliers and purchasing performance:

The study has revealed that the communication among businesses in BoP is informal in nature. Making formal appointments and using 'official' channels to communicate is rare and meeting supply chain associates on certain social events remains a regular practice. Not only business related but certain personal matters are also discussed in a bid to nurture the strength of the relationships. Having said that, respondents of the study reported that power (resources possessed) of the respective actors defines the nature of communications and resulting relationships among the respective business entities. As mentioned previously RDT considers power and interdependencies as the underlying factors defining nature of inter-organizational relationships in an open market scenario. While proportional power of interacting actors discourages triggering a dominance struggle, vice versa remains unavoidable in the case of asymmetric power associations. It has also been highlighted in section 3.2 that communications particularly informal communications among businesses in context of asymmetric power relations are used as a tool to expose private assets of disadvantaged actor.

The results of the regression analysis show that the construct communication and coordination with supplier is significantly negatively associated with purchasing performance of indigenous micro-entrepreneurs. The nature of correlation among the two constructs implies that increase in interaction with suppliers deteriorates purchasing performance of respective buying firms. The inverse relationship between constructs of communication and coordination and purchasing performance thereby compels us to reject the null *Hypothesis 2*. Micro-entrepreneurs in BoP are therefore not engaged in a symmetric power relationship with their suppliers. The dyadic buyer – supplier relationships in BoP can therefore be regarded as an interaction among actors with highly differing resource provisions. The result is in line with propositions of RDT which affirms inter-organizational relationships to be a consequence of differences in the critical resources firms need to survive (Heidi, 1994).

Micro-entrepreneurs in BoP as a result of differences in their critical resources, interact to get access to respective vital resources they otherwise lack. RDT theorists suggest that firms try to get access to critical resources to manage inter-organizational dependencies in such a way that they can maximize their own power. Furthermore, RDT considers power to be a product of critical resources a firm has on its disposal. By acquiring critical resources, a firm thereby tries to increase its power relative to other businesses it is interacting with. The inverse relationship between the two respective constructs implies asymmetric power association in buyer – supplier relationships in BoP (indicated by rejection of null *Hypothesis 2*). The result of regression model thereby also leads to rejection of null *Hypothesis 3*. Buyer – supplier relationships in BoP thereby can be regarded as interactions in which each actor is trying to manage dependencies in its own favour by accumulating more resources.

The inverse relationship between buyer – supplier interaction (communication and coordination construct) and purchasing performance, suggests accepting the null *Hypothesis 4* and

Hypothesis 5. Indigenous micro-entrepreneurs engaged in a buyer – supplier association in BoP thereby can be regarded as having asymmetric power and thereby involved in a power struggle as suggested by RDT. In line with RDT, buyer – supplier interaction among indigenous micro-entrepreneurs can be considered as an inter-organizational association in which each actor while trying to accumulate critical resources is (1) trying to decrease its dependence upon the external environment (2) increase dependence of external businesses upon itself (3) maximize its own power.

5.6. Discussion:

"Purchasing has increasingly assumed a pivotal strategic role in supply-chain management", and today is considered as a seminal pillar of a firm's business strategy (Chen et al., 2004). Indigenous businesses being located within BoP communities are largely dependent upon other BoP supply chain actors, may they be small scale producers, wholesalers or manufacturers for getting their supplies. Evaluating purchasing performance of these indigenous micro-entrepreneurs therefore becomes crucial if one has to develop respective supply chains on a sustainable basis while creating inclusive business opportunities for BoP communities.

The study depicts a reciprocal relationship between the constructs of *supply chain partner development* and *purchasing performance*. The result indicates that the indigenous micro-entrepreneurs in BoP, by capitalizing on their relational capital and partner development activities can increase their purchasing performance. The volatile nature of BoP markets requires small businesses to devise unique strategies to safeguard their business interests. RDT suggests extensive relationships become a necessity of businesses to decrease the environmental uncertainty in such scenarios. In context of purchasing, the uncertain business environment of BoP compels respective firms to secure their supply lines. Indigenous micro-entrepreneurs are therefore inclined to nurture their supplier focused relationships to get access to and ensure an uninterrupted supply of strategic resources. The sample firms in order to strengthen their relationships thereby also consider developing operational and human capabilities of their respective suppliers beneficial for their own business performance.

RDT however, further asserts that in their inter-organizational relationships firms try to decrease their dependence on external environment and increase dependence of external supply chain actors upon themselves (Pfeffer and Salancik, 1978, pp. 26-27). Firms achieve this objective by getting control over respective critical resources they are interacting for at the very first place. Vested intentions to get control over critical resources thereby start a power struggle among the interacting business partners. Indigenous BoP micro-entrepreneurs being unable to fulfil all of their resource needs internally, experience a likewise situation. As proposed by RDT, while involved in extensive relationships with each other, the interacting organizations remain betrothed in a power struggle. The peculiar uncertain nature of BoP markets also adds to the dominance struggle among the respective firms. The opportunistic intentions of each actor involved in buyer – supplier interactions result in damaging consequences for purchasing performance of buying firm. The inverse relationship between constructs of *purchasing performance* and *communication and coordination with suppliers* in the study depicts an analogous situation.

The inverse relationship between *purchasing performance* and *communication and coordination* observed during the course of the survey reinstate and elaborate some of the earlier observations presented mainly in marketing related literature concerning communication – performance link in inter-organizational relationships (Buvik and John, 2000; Caniëls and Gelderman, 2007). One must also keep afore that in BoP extensive exchange of information (informal) and personal ties among transacting parties are used as a substitute of formal institutions to overlook market transaction (Kistruck *et al.*, 2011). In such an environment careful consideration of asymmetric bargaining power in BoP supply chains becomes even

more important. In absence of any mediatory/regulatory institutions to take help from, transacting party higher in power hierarchy and less dependent (advantaged supply chain actor) on other, may exploit one below it and thereby more dependent (disadvantaged supply chain actor).

Farrell and Gibbons (1995) pointed out that the exposure of private information of disadvantaged supply chain actors expose their business assets, thereby making them vulnerable to exploitation by relatively advantaged supply chain actors. On the other hand, being a relationship driven business environment, extensive communication and exchange of information among supply chain actors remains a business qualifying criteria for indigenous businesses in BoP (Viswanathan *et al.*, 2009; Viswanathan *et al.*, 2012). One can easily infer from this that the negative effect of buyer – supplier interactions are due to exposure of assets (private information) of disadvantaged transacting party in BoP. We therefore argue that the inverse relationship between the two constructs (i.e. the *communication and coordination with suppliers* and *purchasing performance*) has its roots in non-voluntary disclosure of private information by the fragile entities in respective BoP market transactions. Disadvantaged actors in buyer – supplier relationships are therefore trapped in a kind of interaction – purchasing performance paradox (increased communication also being a business qualifying criteria and also a source of exposing their private information thereby eroding their market power). Farrell and Gibbons (1995) state "… is there a governance structure that avoids sharing bargaining power ad yet induces (full) communication? … when communication is through cheap talk, answer is no".

5.7. Conclusion

Considered as a notion advocating for "privatisation of poverty reduction" (Arora and Romijn, 2012), "the BoP approach, … can be thought of as an emergent 'metanarrative'—a grand synthesizing framework which provides scholars and practitioners at diverse sites with a template for future research and action aimed at creating market based solutions for poverty eradication" (Chatterjee, 2014). The paper presents the results of a survey aimed at highlighting the supply chain practices having significant impact on indigenous micro-entrepreneurs purchasing performance in B2B supply chains BoP. Supply chain partner development construct (signifying long term relationship and supplier development related activities) along with communication and coordination with suppliers (signifying buyer – supplier interactions in BoP) are found to be the two constructs having significant impact on purchasing performance of the firm. A reciprocal relationship between supply chain partner development and purchasing performance while an inverse relationship between communication and coordination with suppliers and purchasing performance was revealed by results of regression analysis.

Frequent informal interactions among buyers and suppliers remains a distinguishing characteristic of business in BoP and a prerequisite of establishing business relationships. In such a scenario it was found that the respective actor in a buyer – supplier dyad with less power (more dependent on other) is prone to opportunistic intentions of actor with higher power (less dependent on other). Building on RDT and some of the earlier arguments the paper shows how the relatively more dependent actors in a buyer – supplier relationship in BoP eventually lose their purchasing power to relatively less dependent actor involved in the particular transaction. We have tried to highlight the paradoxical relationship between *communication and coordination with suppliers* and *purchasing performance*.

The respective reciprocal relationship in line with propositions of RDT depicts a situation in which firms in order to fulfil their resource needs in an uncertain market environment develop extensive inter-organizational relationships. The argument well explains the characteristic relationship based business environment of BoP. However, the inverse relationship presented between the two respective constructs in the study, corresponding to reasoning of RDT illustrate

the state of affairs in which the indigenous BoP firms try to manage dependencies in their own favour. The opportunistic intentions of respective actors are further expedited in unique uncertain business environment of BoP, being a factor or necessity driven economy (Chelekis and Mudambi, 2010), and devoid of regulatory or supportive market institutional infrastructure. The consequential impact being exposure of private assets and loss of bargaining power of the disadvantaged actor in buyer – supplier interaction. The indigenous micro-entrepreneurs in BoP thereby end up compromising their purchasing performance as a result of the informal buyer – supplier interaction in wake of asymmetric power associations.

6. Extending premium debate in BoP literature

The chapter presents an article to be submitted in a *Journal* by author of this dissertation.

Structured Abstract:

Purpose

The paper while presenting the case of indigenous businesses with in a business-to-business (B2B) market domain, highlights price premiums paid by resource deficient entrepreneurs.

Design/methodology/approach

The paper presents qualitative findings of a study conducted during 2015-2016. The sample was drawn using convenience and snow-ball sampling technique and data was collected through 60 in-depth personal interviews in Pakistan using a semi-structured questionnaire. Resource dependency theory is employed to analyze findings of the study.

Findings

Insufficient working capital, absence of institutional support and per-need based purchasing strategy erodes bargaining power of indigenous micro-entrepreneurs. Thereby making them vulnerable to opportunistic intentions of relatively advantageous suppliers. The particular scenario has made BoP micro-entrepreneurs highly dependent upon their immediate suppliers who while playing the role of lender and enjoying a relatively stronger bargaining power charge certain deficiency premiums.

Research limitations/implications

The paper offers insights on buyer-supplier business interactions in the BoP. The study will set ground for further exploring the subject matter and devising socio-economic development strategies to tackle with the respective challenges faced by indigenous micro-entrepreneurs highlighted in the paper. The obvious limitation of the paper is the small sample size used to draw conclusions. Nevertheless, the respective limitation also opens door for future researchers to enrich the findings by conducting relatively large scale studies while employing novel data collection and analysis techniques.

Originality/value

With earlier corresponding empirical works being mainly focused on business-to-customer linkages, this paper while aiming at B2B interactions will enrich the understanding of BoP business environment and augment argument on access to resources in emerging economies.

Keywords: Supply Chain Management, Business-to-Business, Base of the Pyramid, Case Study, Resource Deficiency Premiums.

6.1. Introduction

The *Development through commerce* agenda for those making the bottom tier of the world income pyramid put forward by Prahalad and colleagues has succeeded in gathering notable attention from the scientific community (Prahalad, 2006; Kolk *et al.*, 2014; Khalid and Seuring, 2017;). The foremost BoP literature either tried to problematize BoP case or tended to stir multinational corporations' (MNCs) attention to start business activity in long forgotten potentially lucrative informal markets of BoP (Prahalad, 2006; McMullen, 2011). While the BoP research stream has gradually developed from a consumer oriented (Ahlstrom, 2010) through a producer oriented (Agnihotri, 2013) to a partner oriented one (Simanis *et al.*, 2008) inclusive business domain, business relationships and issue of *poverty premiums* was mainly dealt with from a business-to-consumer (B2C) perspective in extant literature (Karnani, 2007). Indeed, humble consumers are exploited on hands of the local businesses who while offering mainly utility items do charge certain price premiums. However, the consumer centered justifications for this malpractice in B2C supply chains are far diverse than ones presented by BoP researchers so far. The BoP literature in simplistic terms considers illiteracy, weak purchasing power and inconsistent and unreliable sources of income as prime causes forcing consumers to pay poverty premiums (Arnold and Valentin, 2013; Kistruck *et al.*, 2013; McMullen, 2011) . The respective literature has however overlooked the B2B dimension of the malpractice and inter-organizational relationships upward a supply chain. We think that, instead of having a holistic end-to-end supply chain perspective, BoP literature by far has tried to focus a bifurcated, localized and a more consumer centered perspective to analyze BoP business case.

Individual businesses today are considered as nodes in a wider supply chain network perspective, with core assumption implying each node of the chain effects other. The indigenous entrepreneurs in BoP remain not an alien to the fact. Not only that the supply chain actors working *up* a supply chain can be prone to same malpractices happening *down* the supply chain but can also be a *cause* of downstream challenges.

The study while analyzing business relationships takes up the theoretical lens of resource dependency theory (RDT), incorporates B2B dimension in a largely B2C centered poverty premium discussion. While doing so the paper presents the case of the disadvantaged indigenous entrepreneurs. The paper argues that not only the consumers but also the humble local businesses in peculiar informal market setting of BoP are paying poverty premiums to their relatively advantageous suppliers. Furthermore, the paper also maintains that, in line with the core assumption of supply chain management mentioned above, the malpractice in B2B supply chain simply travels down the B2C supply chain. The challenge thereby cannot be tackled with, while primarily focusing on final consumer empowerment strategies.

While relating empirical findings with RDT the paper also presents the reasons that have made the indigenous micro-entrepreneurs highly dependent upon their suppliers. We think that RDT while talking about behavior of organizations with its external business environment to fulfill its internal resource needs can provide valuable insights to peculiar situation of resource deficient micro-entrepreneurs in BoP. At the theoretical level, the paper thereby tries to incorporate RDT in a highly concrete BoP debate (Halme *et al.*, 2012). We hope that the paper

in context of RDT will also open a new theoretical window to better analyze an asymmetric B2B supply chain in BoP.

The subsequent parts of the paper are structured as follows. The next section presents a brief overview of the concerned published literature. Following section introduces the reader with the methodology employed. Findings of the study are presented in the next section. Last but not least a discussion is presented after findings and a brief conclusion makes the concluding section of the paper.

6.2. Literature review

6.2.1. Base of the Pyramid (BoP)

Since the earliest publications of Prahalad and Lieberthal (1998) and Prahalad and Hart (1999) people making up the bottom tier of world income pyramid and largely dependent on in informal market economy for their subsistence (Arnold and Williams, 2012) are referred to as BoP in management related literature (Kolk *et al.*, 2014). Over the years BoP debate has gradually developed from a consumer and marketing centered call of market intervention for MNCs to a partner and capability nurturing notion for sustainable development of BoP through promoting business related activities (London *et al.*, 2010; Calton *et al.*, 2013). BoP literature in general considers sluggish economic activity in BoP markets, due to varied number of reasons from illiteracy to absence of logistical and institutional infrastructure as the prime cause of misery for billions making up BoP. Therefore, a sundry of proposals to kick start economic activity in BoP focusing both business model and product innovations have been presented by BoP researchers over the years (Hall *et al.*, 2012; Kistruck *et al.*, 2013; Hall *et al.*, 2014; Fawcett and Waller, 2015).

An examination of the earliest published BoP literature reveals that devising mechanisms to lower down the *poverty premiums*, remains one among the core foundations of whole premise of the research stream (Prahalad, 2006; Karnani, 2007). “Poverty premium refers to the higher prices poor families pay for basic necessities like gas, electricity, and banking compared to average customer” (Agnihotri, 2013). BoP scholars argue that MNCs are able to reduce poverty premiums while earning decent profits if they start offering their products and services to BoP after reconfiguring their pricing strategies (Agnihotri, 2013). Thereby creating win-win scenario for both MNCs and poverty stricken BoP consumers (Viswanathan *et al.*, 2009; Van den waeyenberg and Hens, 2012). Since the seminal BoP literature was largely consumer focused and scholars have primarily dealt with B2C issues, the poverty premiums are mainly understood and dealt with from a consumer oriented perspective (Acosta *et al.*, 2011; Kolk *et al.*, 2014). Furthermore, the *actor based* viewpoint of BoP literature (focusing either consumers or producers) has contributed towards dealing with poverty premiums in a relatively narrower actor focused rather than a more holistic supply chain perspective.

Though the absence of logistical infrastructure highlighted and strategies to address related challenges have been presented earlier (Vachani and Smith, 2008), over the time concerned researchers have started viewing the BoP in a broader supply chain perspective (Sodhi and Tang, 2016; Khalid and Seuring, 2017). Calls for redesigning supply chains to address the unique challenges of BoP and involving the disadvantaged supply chain actors in value creating activities along the supply chains have emerged (Hall and Matos, 2010; Fawcett and Waller, 2015). Sodhi and Tang (2014, 2016) argue that the BoP market is different from the formal

markets on account of two main challenges to deal with. First, challenge being lowering down high transaction costs arising from dealing with a large number of small transactions. Second, insuring the fair distribution of rents generated by supply chains among the advantaged and disadvantaged supply chain actors. Since both of these issues are supply chain related we think that examining BoP issues in an overarching supply chain perspective instead of localized actor based view can be potential way forward. By supply chain perspective we mean the very basic understanding of the concept, that activities happening in one part of the chain effect or travel to other parts. The issue of poverty premiums also needs to be studied in a wider supply chain perspective. Examining the structure and inter-organizational relationships upward BoP supply chains can enrich our understanding of BoP business environment while providing new insights to deal with associated challenges.

Inability of firms to furnish all of their resource needs internally compel them to interact with and acquire their supplies from external environment. In case of BoP firms, not only the deficiency of internal resources but also the hostile nature of external business environment demands rethinking of traditional ways of doing business and find innovative solutions. Integrating with local communities and active involvement with a wide array of traditional and non-traditional stakeholders are seen as the viable strategic options by BoP scholars to compensate for resource scarcity of BoP firms (Arora and Romijn, 2012; Calton *et al.*, 2013). Cooperation and resulting dependence upon direct and indirect business stakeholders in BoP is not only meant for getting access to required resources but also to deal with challenges posed by non-friendly business environment (Mena *et al.*, 2010). Schuster and Holtbrügge (2014) therefore maintain that " when companies aim to enter low-income markets, they should not follow the recommendation of the transaction cost theory and internalize resources, but rather cooperate with nontraditional partners and invest in the local environment". Employing a resource based perspective talking about the behavior of not self-sufficient firm with its external environment can help better understand issues related to a resource deficient and relationship driven BoP market.

6.3. Resource dependency theory (RDT)

Since the influential work of Pfeffer and Salancik (1978), RDT has been widely employed to suggest and explain strategies employed by organizations to reduce "environmental interdependence and uncertainty" (Hillman *et al.*, 2009). "Rooted in an open system framework" (Barringer and Harrison, 2000), RDT talks about *why* and *how* organizations work to reduce *other's* power, meanwhile establishing their *own* supremacy. *Power* (understood in terms of control over fundamental resources) thereby remains core construct RDT uses to explain interdependence in inter-organizational relationships along a supply chain (Bode *et al.*, 2011; Drees and Heugens, 2013). It must be kept afore that RDT is distinct from *resource based view* presented by Barney (Barney, 1991). While the resource based view focuses on *internal* firm resources, RDT talks about the *external* environment of an organization influencing it. RDT considers organizations not to be autonomous entities rather constrained by their external business environment therefore in order "to understand the behavior of an organization (one) must understand the context of that behavior – that is, the ecology of the organization" (Pfeffer and Salancik, 1978, p.1). The social context of the organization thereby is considered imperative for understanding organizational behavior. Core assumptions of RDT can be summarized as follows:

1. To a large extent organizations are not internally self-sufficient with respect to strategic resources (Heide, 1994; Paulraj and Chen, 2007).
2. To get access to respective strategic resources organizations are dependent upon other firms (external environment).
3. Organizations intentionally establish "formal and semiformal links with other firms" in order to "reduce uncertainty and manage dependence" (Ulrich and Barney, 1984; Paulraj and Chen, 2007)
4. While managing dependencies for the sake of their personal benefit "organizations must acquire control over critical resources in an effort to decrease dependence on other organizations" (Barringer and Harrison, 2000).
5. Furthermore, organizations must "acquire control over resources that increase the dependence of other organizations on them" (Barringer and Harrison, 2000).

The RDT proposes organizations have five alternative strategies to decrease interdependencies in an uncertain external business environment i.e. mergers/vertical integration (Yin and Shanley, 2008), inter-organizational relationships like/and joint ventures (Barringer and Harrison, 2000), board of directors (Zahra and Pearce, 1989), political action (Mullery *et al.*, 1995) and executive succession (Dalton and Kesner, 1983). While respective scholars have undertaken extensive research to study inter-organizational interdependencies, focusing each of these multiple strategies (however) in their individual capacity, Hillman *et al.* (2009) conclude that "we know very little about how these different strategies may interact and influence one another".

For the sake of this paper we will use RDT only to analyze inter-organizational relationships in a highly social and uncertain market environment i.e. BoP.

6.3.1. RDT and inter-organizational relationships

Inter-organizational relationships help firms achieve their business objectives by integrating otherwise segregated physical and intellectual resources. As mentioned earlier, in an open market environment firms engage with each other to get accesses to critical resources they lack otherwise (Pfeffer, 1972). This need to obtain resources creates dependencies among firms.

Based on the concept of interdependence (Paulraj and Chen, 2007), the basic arguments of RDT and its perspective on inter-organizational relationships are summarized by Pfeffer (1987, pp. 26-27) as:

1. The fundamental units for understanding intercorporate relations and society are organizations.
2. These organizations are not autonomous, but rather are constrained by a network of interdependencies with other organizations.
3. Interdependence, when coupled with uncertainty about what the actions will be of those with which the organizations interdepend, leads to a situation in which survival and continued success are uncertain.
4. Organizations take actions to manage external interdependencies although such actions are inevitably never completely successful and produce new patterns of dependence and interdependence.
5. These patterns of dependence produce inter-organizational as well as intra-organizational power, where such power has some effect on organizational behavior.

Focusing "on control, power, and vulnerability" (Bode *et al.*, 2011), RDT asserts that firms by establishing inter-firm relationships tend to reduce *uncertainty* in their external resource requirements. Firms are inclined to manage the resource provision uncertainty in their external

business environment by increasing depth and breadth of their supply chain relationships. A reciprocal relationship therefore can be imagined between environmental uncertainty and inter-organizational relationships (strategic relationships) (Paulraj and Chen, 2007). In line with this argument and while considering the strength of relationships from an intensity of information exchange perspective Bode *et al.*, (2011) maintain that "the more environmental uncertainty a firm faces, the more information it needs to gather and process to achieve a given level of performance". Relying on the logic of RDT it can therefore be anticipated that frequent exchange of information and extensive relationships among supply chain actors will be highly evident in a volatile and uncertain business environment.

Furthermore, RDT talks about the *power* factor in inter-organizational relationships especially when these relationships are asymmetric and dependent. RDT theorists maintain that, firms while decreasing their dependence upon external environment, simultaneously increase dependence of external business entities upon themselves (Pfeffer and Salancik, 1978). RDT thereby considers inter-organizational relationships a tool used by business organizations to increase their market power relative to other businesses, by getting hold on complementary assets. Access to critical resources seen in backdrop of resource deficiency perspective therefore is pursued as a strategy to counteract business ambitions of other supply chain actors particularly competitors (Barringer and Harrison, 2000).

RDT thereby attempts to provide theoretical foundations to explain complex inter-organizational relationships in an uncertain external environment, where strategic relationship building and opportunistic intentions go hand-in-hand. The guiding principle in relationship building remains the maximization of focal firm's business interests.

6.4. Methodology

6.4.1. Data collection

The paper presents qualitative findings of an empirical study conducted in Pakistan during 2015-2016. While the data for the principal study was gathered using a structured questionnaire, the qualitative findings of the survey presented in this paper were collected to further enrich the principal findings using open-ended questions. Qualitative data thus gathered helped better understand the interviewee and BoP business environment in a B2B context. The target population was micro-entrepreneurs operating with in a B2B business domain. Respondents were predominantly small manufacturers (suppliers) and retailers (buyers). The retailers in this case were kiosks, selling various utility items from food and garments to stationary and basic electric equipment to BoP consumers. It was observed that the suppliers sell their output either directly or via retailers to final consumer. Retailers on the other hand obtain their merchandise from small manufacturers and wholesalers to be sold to end customer.

The sample was drawn using snow-ball and convenience sampling techniques. The core criteria used to define micro-entrepreneurs (respondents) was number of employees (being 1-5) and subjective observation of the premises of the respondent's workplace. The said data collection techniques were specifically warranted in our context, since no reliable database was available to draw sample from. The respondents were usually either the owners of the businesses or general managers responsible for running the whole business independently. A pilot study was conducted with 10 respondents beforehand to identify potential avenues of improvement of data collection instrument. After completion of pilot study 50 face-to-face interviews were

conducted while not specifying any particular industrial sector. The strategy provided liberty to gather opinions from a very diverse business community representing various industrial sectors. A typical interview took approximately 45 minutes and were primarily conducted at the respondent's work premises and in regional language. The interviews were audio-recorded and notes taken. Follow-up questions were asked during the course of interview to better understand the context and further enrich qualitative findings.

6.4.2. Data analysis

The process of analyzing the data started with transcribing the interviews. The transcription involved not only 'decoding' audio-recorded data in black and white but also translating the interviews from regional language into English. Having the qualitative data transcribed, analysis was further undertaken based on two prime research objectives i.e.

1) Assessing the general B2B business environment of BoP for indigenous micro-entrepreneurs.
2) Assessing nature of dyadic buyer-supplier relationships focusing B2B supply chain.

The next step was unitizing the transcribed data into categories. The respective categories were related to each of the above mentioned research objectives and were titled as *BoP business environment in B2B context* and *nature of dyadic B2B relationships*. The process of grouping the data in categories was once revised in order to increase the reliability of the coding process.

Qualitative data corresponding to each of the two categories was then inductively analyzed. An analytic induction procedure corresponds to intensive examination of strategically collected data to understand a specific phenomenon and establish its causes (Saunders *et al.*, 2006, p. 498). Inductive analysis led to the identification of the pressing issues related to each of the two categories and are presented in the next section. The inductively derived codes help reader get a firsthand understanding of general BoP business environment and dyadic relationships of indigenous micro-entrepreneurs. The analysis was further enriched by analyzing codes corresponding to the category *nature of the dyadic B2B relationships in BoP* by employing propositions of RDT. We are confident that the study will therefore enrich the theoretical infrastructure to evaluate and tackle with BoP proposition and challenges particularly those related to development and functioning of inter-organizational relationships (Ansari *et al.*, 2012).

6.5. Findings

As has been highlighted in the previous section that the qualitative data has been evaluated in backdrop of the two research objectives, the findings of the study will therefore be presented accordingly.

6.5.1. BoP business environment in B2B context

To assess the general B2B business environment in BoP the respondents have been asked about the challenges and comforts of doing business in their peculiar informal market environment. The particular issues brought to light by the respondents are detailed below.

Physical infrastructure

As expected in the context of electric power crises Pakistan is currently facing, power shortage issue was most frequently mentioned challenge micro-entrepreneurs are dealing with. However, in line with what has been documented earlier under notion of missing infrastructure in BoP

related literature (Berger and Nakata, 2013; Arnold and Valentin, 2013), we maintain that given the relaxation of magnitude of problem, power shortage issues are not unique to area under investigation. Having said that, the power shortage came up as one of the main obstacles hindering the respondents reaching their full performance potential.

Missing or absent logistical infrastructure has been presented as one of the striking characteristics of BoP markets in related literature (Vachani and Smith, 2008), while speaking in context of B2C business environment. Surprisingly logistics related issues were not regarded as a bottleneck by the respective respondents in this study. The micro-entrepreneurs seemed to have developed certain strategies to deal with missing logistical infrastructure e.g. using three-wheelers (auto-rickshaws) to transport deliveries in relatively small batch sizes.

Institutional infrastructure

Having said about the business supporting physical infrastructure, respondents also mentioned how absence of institutional infrastructure is restricting their business growth. Presenting the case of women from Bangladesh, Mair *et al.* (2012) have commented on how the institutional voids can create market exclusion. Absence of a vibrant and functioning institutional infrastructure has been regarded as one of the prominent reasons hindering optimal business activity in BoP markets (Ray and Ray, 2011; Reficco and Marquez, 2012). Correspondingly the respondents of the study highlighted how absence of financial institutions to fulfill their working capital needs restricts their business growth. Furthermore, some respondents also pointed towards the corrupt and exploitative practices of officials of the few micro-finance institutions offering loans.

It has been further revealed that, though, to a large extent micro-entrepreneurs want to pay tax and become *formalized*, astronomical tax rates and prevalent corruption of tax officials keeps them from becoming part of the formal economy. The respondents unanimously acknowledged the fact that illiteracy and absence of efficient judicial and other regulatory institutions remains the prime cause of exploitation of micro-entrepreneurs by corrupt tax and bank officials.

Micro-entrepreneurs as lenders

It has been pointed out earlier by (Weidner *et al.*, 2010) that "owners of small businesses in these markets (BoP markets) often play the role of lender" however while talking in context of B2C market transactions. The results of interviews have concluded that the narrative stands true also for B2B market transactions (dyadic buyer-supplier transactions between retailers and small manufacturers respectively in our case). Not only micro-entrepreneurs themselves *lend* their produce to their customers but also get their supplies on a deferred payment mode. The respondents have highlighted that a major part of B2B business transactions materialize on a deferred payment model, with no guaranteed payback time intervals negotiated or followed. Sometimes these deferred payments account for more than two-third of total business transactions.

While the deferred payments provide a financial life line to micro-entrepreneurs and enable them run their businesses during hard times, fraudulent practices remain common. Institutional voids further encourage black sheep exploit their lenders. The intensity of such malpractices is so wide spread that most of the respondents have put the *lost or deferred payments* as second most cited challenge indigenous micro-entrepreneurs have to deal with. One can imagine the

plight of affectees if one also takes into perspective the absence of financial or market regulatory institutions in BoP.

Furthermore, it has also been reported that relatively stronger suppliers use to lend supplies to their disadvantaged customers as part of an exploitative business strategy. While knowing that their humble customers are unable to purchase raw material to run their business, suppliers provide them with vital supplies on above market rates thereby charging them a *capital deficiency premium*. The modest business earnings, deferred payments and fraudulent practices in market keeps buyers from clearing the exorbitant bills with their suppliers. Relatively advantageous suppliers thereby gradually succeed in building a 'loyal' customer base to whom they can sell their output while charging a certain deficiency premium. The exploitative practice not only restricts business growth in BoP but also dictates nature of inter-organizational relationships which will be discussed in more detail later on.

Skilled labor

While it is presumed an abundant rather over supply of labor has paved the way for use of labor intensive technologies in BoP (Ray and Ray, 2010), availability of skilled labor remains scarce. The third most mentioned challenge micro-entrepreneurs are facing after power shortage and lost payments was acute shortage of skilled labor force. The advantages of a trained labor force for businesses have been highlighted earlier in the BoP literature (Arnould and Mohr, 2005). However, the respondents of the study maintained unavailability of sufficiently skilled labor force as a major efficiency draining factor for their businesses.

China factor

Indigenous micro-entrepreneurs in BoP due to their scarce resources usually remain unable to achieve economies of scale and scope (Karnani, 2007; Elaydi and Harrison, 2010) and thereby compete with big international players. Inflow of relatively cheap alternative products in local markets has further made life difficult for respondents of this study. The micro-entrepreneurs have pointed towards lack of willingness of regional and national governments to keep a check on imported items to safeguard local industry. Though few respondents manufacturing certain traditional and localized products remained neutral, majority reported losing business to Chinese products despite of the gigantic size of the BoP market. Owner of a small workshop employing 6 workers and manufacturing handmade shoes mentioned;

"it is becoming difficult to sustain the business with every passing day, before there were the big market players with heavy pockets who established big factories and snatched away our workers and now the influx of machine made cheaper Chinese shoes have made it difficult for us to compete ……. buyer in our market is always searching for cheaper products".

Obsolete technology

In line with what has been reported earlier for telecom and automotive sector of India by Ray and Ray (2010) and Ray and Ray (2011) respectively, indigenous small manufacturers have found to be using outdated technology. The vast majority of small manufacturers realize the dire need to update their machinery however capital constraints and illiteracy restricts them to do so. Respondents of the study acknowledged that illiteracy impedes them from getting know how of latest technological advancements in manufacturing industry. A respondent manufacturing handles for electric irons in his house mentioned;

"you can see how we are making them (handles) by using this manually operated press. It requires good amount of muscle power and we know we are not efficient. The automatic press costs about Rs. 1,00,00,00 its more efficient and gives quality output but we cannot afford it"

The phenomenon being general in nature for the BoP markets needs policy initiatives to be taken at national level in order to educate indigenous manufacturers and provide them with needed finances for technological upgradation.

6.5.2. Nature of dyadic B2B relationships in BoP

Being the respondents of the study, this section will mainly deal with dyadic relationship between small manufacturers and retailers. However, provided their universal nature we think that these findings will encompass general buyer-supplier relations of indigenous micro-entrepreneurs in BoP.

During the study, respondents have been asked about three aspects pertaining to nature and strength of inter-organizational relationships i.e. frequency of contact, medium of contact and quality of relationships.

Frequency of contact

Corresponding to what has been reported earlier in the BoP related literature, the respondents of the study were found to remain in frequent contact with each other (Hill, 2010; Hahn and Gold, 2014). It has been reported that the frequency of contact is largely dependent upon the intensity of business transactions. Frequency of dyadic contacts though increases during high season, does not entirely fade away during times of low business activity. The micro-entrepreneurs contact each other sometimes just to convey the message 'I am still around'. One of the reasons of remaining in frequent contact with other businesses in BoP has been elaborated by one respondent as:

"In a dynamic business environment like BoP, with businesses appearing and disappearing quite recurrently, 'the call' is essential to keep other party aware of one's presence"

Furthermore, micro-entrepreneurs being devoid of formal organizational structures evident in large business organizations, the contacts are developed and managed mainly by the owners of respective businesses.

Medium of contact

Responding to question related to channel of contact, the micro-entrepreneurs told to be mostly using mobile phones to communicate with other supply chain actors. Extensive geographical coverage of telecommunication technology and its affordability has made it possible for micro-entrepreneurs to expand their businesses (VanSandt and Sud, 2012). Furthermore, it was also reported that visiting work premises of each other, meeting on various communal and social gatherings and discussing general life related issues apart from business was a common practice.

The informal nature and frequency of inter-organizational interactions highlight the much advocated social aspect of business relationships in BoP literature.

Quality of relationships

When asked about the nature of relationships with their suppliers/customers (depending on if the respondent was small manufacturer or retailer), the replies poised a complex picture of inter-organizational relationships in BoP. In spite of being in frequent informal contacts with each other generally the micro-entrepreneurs doubt the healthy nature of these relationships for their businesses. Relatively smaller businesses were found to be suspicious about the intentions of bigger business affiliates. They commonly believe bigger players doing business only for sake of their vested benefits and disregarding the economic interests of other supply chain actors. It was learned that buyers are relatively weaker (disadvantaged) than their respective suppliers. The strength is perceived in relative terms by BoP supply chain actors and depicted by capital/financial resources of a firm. Correspondingly, lack of sufficient working capital and thereby weak purchasing power remains the prime cause of disadvantaged position in dyadic relationship for relatively weaker buyers. In spite of the unhealthy nature of relationships the disadvantaged retailers intend to keep these associations to ensure a continuous supply of raw material in context of the dynamic and uncertain nature of external business environment (consider for example issue of lost or deferred payments touched earlier). On the other hand, advantaged suppliers appeared to 'invest' (by lending supplies) on buyers, in order to capitalize on business associations so developed by building a loyal customer base.

The findings of the study pertaining to the nature of the business relationships in BoP are further analyzed in backdrop of RDT and are presented next.

6.5.3. RDT and inter-organizational relationships in BoP

An uncertain external business environment remains one of the defining characteristics of BoP (Hall *et al.*, 2014) . RDT asserts that firms in such a volatile business environment are inclined to interact with other supply chain actors in order to gather maximum information pertaining to their external environment (Paulraj and Chen, 2007). An increase in depth and breadth of inter-organizational relationships will therefore be evident in such a scenario as is depicted by the findings of this study. Furthermore, RDT proposes that firms by establishing such relationships will try to decrease their dependence on external environment while increasing dependence of external business affiliates upon them. While managing external dependencies firms produce new patterns of interdependencies subject to their social context Pfeffer and Salancik (1978, pp. 26-27). Corresponding to arguments of RDT one can anticipate that the unique business environment of BoP relative to formal markets warrants exclusive modes of inter-organizational relationships.

While both the advantaged and disadvantaged actors in a dyadic relationship try to reduce uncertainty and manage interdependencies, their approach to achieve the objective differs. We have found that in context of BoP, advantaged actor naturally tends to pivot more on the power it enjoys to mould relationships in its own favor. On the other hand, disadvantaged actor tries to protect its business interests tries to focus more on relationship building activities in order to showcase its trustworthy stature. Furthermore, each of the respective actors involved in the dyadic buyer-supplier relationship also tries to increase dependence of other upon its own, while pursuing its unique business strategy crafted in its respective internal and external resource provision environment. Analyzing exhibit of power by relatively advantaged actors or their trustworthy stature by disadvantaged actors in their mutual effort to decrease uncertainty and manage interdependencies can help better understand B2B business environment and inter-organizational relationships in BoP.

6.5.4. Advantaged suppliers in BoP

RDT asserts that the power is a consequence of access to or ability to leverage upon the resources a firm needs to run its business operations (Hillman *et al.*, 2009). Working capital remains one of the prime resources an entrepreneur needs to run its business operations. Not only the monetary capital is a resource in its own capacity but it also enables a firm to get access to other resources it needs to run its business. The formal markets have developed the necessary institutional infrastructure to provide businesses with the needed finances not only to manage their running business expenditures but also to fulfill their business growth needs. Defined by the lack of their monetary capital, importance of financial resources increases manifold in BoP (Kistruck *et al.*, 2011). Resource scarce BoP firms not only direly require financial resources to furnish their working capital needs but also to get access to other supplies they need to run their business operations.

Likewise, the respondents of the study understood the market power in resource (financial) scarce business environment of BoP to be a consequence of strong financial resources of respective firms. The results of the study depicting suppliers to be enjoying a relatively powerful and thereby an advantaged position in inter-organizational relationship in BoP mirror their sound financial performance. Furthermore, in context of uncertain business environment of BoP, building and maintaining a loyal consumer base could help suppliers defuse external risks. The business strategy of BoP suppliers, in context of buyer-supplier relationships and analyzed against RDT will thereby be focused at achieving three objectives. First, ensure a strong financial performance to uphold their market power. Second, build and maintain a loyal customer base, to reduce environmental uncertainty and boost financial performance and third, increase dependence of buyers upon themselves.

It has been observed that BoP suppliers succeed in achieving these objectives mainly by using their financial power. Disadvantaged buyers facing capital constraints normally approach advantaged suppliers via certain ‘common friends’ or other social contacts. Suppliers having known the destitute financial position of their ‘new’ customers, offer them to purchase goods on a deferred payment mode. In return of their ‘courtesy’ suppliers charge above market price for their merchandise, a fragility/resource deficiency premium indeed. It should be kept afore that, business being relationship driven in BoP, the common friends or other social contacts play the role of guarantor for materializing such transactions. The suppliers in this case like vicious money lenders, try to keep an equilibrium whereby disadvantaged buyers while remaining unable to clear their bills in one go, continue to purchase goods on above market prices. Furthermore, it was also observed that each supplier depending upon its financial position decides for himself how much capital he can afford to ‘block’ in market, for building such a customer base.

The business strategy thereby in accordance with RDT enables advantaged suppliers; (1) to decrease down external uncertainty by building a loyal consumer base (2) build their power by making disadvantaged buyers dependent upon them (3) maintain their power (financial resources) by charging above market rents and building a customer base and (4) decrease their own dependence upon external business actors (buyers).

6.5.5. Disadvantaged buyers in BoP

Disadvantaged buyers try to reduce environmental uncertainty and manage interdependencies as poised by RDT, while pursuing a business strategy crafted in their own specific context and

different from that of relatively advantaged suppliers. From an RDT perspective the supply related uncertainties could occur as a consequence of "(1) lack of superior relational aspects or (2) power imbalance in favour of the supplier firm" (Pfeffer and Salancik, 1978; Paulraj and Chen, 2007). As has been mentioned earlier the disadvantaged buyers due to their weak financial resources have thin capital cushion to leverage upon. Buyers therefore appeared to focus more on relationship building. Building a trust worthy stature of themselves for their suppliers and extending their supplier base were found to be core pillars of their external business strategy in wake of volatile business environment of BoP.

To manage uncertainties and decrease their dependence upon other organizations (suppliers in this case), buyers tend to extend and diversify their supplier base. Though streamlining firm's supply base to reduce number of suppliers remains the popular notion of modern supply chain management literature targeting formal market scenarios (Lemke *et al.*, 2000), vice versa is believed to be a constructive and thereby practiced business strategy by indigenous businesses in BoP. Respondents of the study mentioned that the disadvantaged buyers are inclined to increase their supplier base for two main reasons. First, to increase their 'working capital' (in form of raw material). One should keep afore that normally these supplies are received on a deferred payment and thereby are kind of *borrowed* from suppliers. In this way disadvantaged buyers by using their business relationships and social contacts become able to get access to capital needed to expand their business. Second, to ensure a continuous supply and avert any supply related risks (e.g. in case any of the supplier stops supplying goods due to any potential disputes developed on payment related issues). Thereby reducing supply related uncertainty in precarious business environment of BoP. The two mentioned reasons partially explain cause of consent of disadvantaged buyers to pay above market rents for getting their supplies. Having said that we think that, the extent to which the supplier extension and borrowing strategy remains beneficial for businesses in BoP needs careful scrutiny. As pointed out earlier in the relationship driven business context of BoP, extending the supplier base remains dependent on the social contacts. Disadvantaged buyers therefore reported to care more and spend substantial part of their off-work time in relationship building.

It was learned that disadvantaged buyers also use supplier relationships to offset competition and thereby increase their power. Having secured their supply base, the buyers try to increase breadth of relationships in their effort to strike some exclusive business deals. Trust worthy relationships gradually maturing into exclusive business partnerships helps buyers defuse competition and thereby gain upper hand in their local markets.

The disadvantaged buyers by virtue of their relationship building efforts and in accordance with propositions of RDT become able to (1) decrease supply related and financial uncertainty by extending their supply base (2) decrease dependence on suppliers by building a diversified supplier base (3) increase their power by diffusing competition via entering into exclusive partnerships with their suppliers. Relationship building thereby plays crucial role in realizing business interests of buyers in uncertain markets of BoP as proposed by RDT.

Table 19: Resources and business strategies in BoP

Resource	Firm in possession	Firm lacking resource
Financial capital	Use financial capital to get access to other resources and thereby manage dependencies in their own favor	Diversify and extend relationships with direct and indirect business actors
Relational capital	Use relationships to get access to other resources and thereby manage dependencies in their own favor	Get access to financial resources to manage dependencies or face market exclusion

6.6. Discussion

Functioning institutions remain primitive for markets to function and play their part in development of societies. While institutional infrastructure is "taken for granted as a passive background" in formal markets, their absence results in market exclusion (Mair *et al.*, 2012; Reficco and Marquez, 2012). Devoid of formal institutions (i.e. formal laws and regulations and the corresponding enforcing apparatus, communication and transport infrastructure related elements providing society's basic needs and encouraging economic activity and capital markets), informal institutions (i.e. values, relationships, beliefs, norms) derive markets in BoP (Kistruck *et al.*, 2011). Respective scholars have commented extensively on how informal institutions can substitute for formal institutions in running markets in BoP (London and Hart, 2004). The extent paper tends to enrich the concerned literature by presenting empirical evidence showing how the informal institutions in form of relational capital decreases exclusion in B2B markets. Furthermore, using the arguments presented by RDT it also tends to highlight the power factor at play in BoP business relationships and its side effects on disadvantaged actor in context of buyer-supplier relationships.

Using argumentation of RDT Schuster and Holtbrügge (2014) have commented on strategies that can help foreign firms enter into and operate in BoP markets. However, in this paper we have used logic of RDT to look more into relationships among local BoP business actors. In line with the popular opinion of BoP scholars, we maintain that the informal institutions in form of relationships remain a business qualifying criteria in BoP. The relationship based business environment of BoP can be justified theoretically by taken into account the resource dependency argument. In a resource scarce business environment like BoP, extensive relationship building with a wide array of direct and indirect business actors is not only meant to get access to internally deficient resources but also to bridge institutional voids. Trust based relationships with intermediaries compensate for formal institutions in developed markets to link together and create "spaces for interaction" (Schuster and Holtbrügge, 2014) among buyers and suppliers in BoP. Furthermore, the relational capital is also used to get access to critical business resources as has been presented in the case of the disadvantaged buyers in the paper.

Having said that the findings of the paper suggest the power of respective actors playing crucial role in defining the nature of BoP relationships. RDT theorists propose power to be a product of access to resources a firm need to run its business operations. Inability of firm to internally furnish all of its resource needs compels it to interact with its external business environment which creates dependencies. More dependent an organization is on its environment to get its resources, less power it enjoys and vice versa (Pfeffer and Salancik, 1978). The extent paper identifies two resources i.e. financial resources and relational resources simultaneously at play in defining power and nature of buyer-supplier interaction in BoP. Characterized by its poverty

the respective scholars acknowledge the financial resource scarcity of BoP actors. However, the respective literature mainly encouraging MNCs to start business operations in BoP, has seldom considered monetary capital a resource in its own capacity compelling firms to interact with external environment for its possession in BoP markets (Kolk *et al.*, 2014).

Direct and indirect relationships are vital to operate in relationship driven business environment of BoP (Arnould and Mohr, 2005). With relational capital being a business qualifying criteria, importance of monetary resources in a financially deprived business environment increases manifold. One should keep afore the institutional voids to provide businesses with the needed capital in BoP. Power in such a context and as has been reported by the respondents of the study, is largely defined by the financial resources a firm has on its disposal. The study therefore in context of BoP buyer-supplier interactions maintains, powerful firms as the ones with relatively more financial resources in BoP. Table 19 in line with the findings of the study presents different strategic options employed by BoP firms with in context of varying financial and relational resource possessions.

One among the core arguments presented by the seminal advocates of BoP in favor of the foreign business interventions in marginalized societies was to reduce down poverty premiums (Prahalad, 2006). The original BoP work being consumer oriented, the poverty premium issue was mainly dealt within a likewise context. BoP literature since its inception remained overshadowed by works either highlighting the issue of premiums or presenting business strategies to reduce it, however, mainly dealing with it in a B2C market context (Agnihotri, 2013). Correspondingly the approach posed by the respective scholars to address the challenge of premiums was consumer focused and mainly incorporated such strategies as consumer education, running ethical marketing campaigns and encouraging business competition in BoP (Arnold and Valentin, 2013). The very disposition of seminal BoP literature led to concentrate more on B2C issues while overlooking B2B challenges in BoP. Likewise, little effort has been undertaken to explore B2B market transactions and trace back the roots of premiums further up a supply chain.

The extent study intends to fill the apparent research gap by looking more into B2B market transactions in BoP. During the course of investigation, it was learned that premiums are also charged in B2B markets. Extending the poverty premium debate, we maintain that the malpractice not only remains a practiced reality in B2B transactions but it also travels further down respective supply chain. The poverty premium charged by businesses in B2C markets is thereby partially if not solely a result of the trickledown effect of what is happening up a supply chain within B2B business domain. Analyzing the premium issue using the theoretical lens of RDT, we consider the premium in B2B markets as a resource deficiency premium charged from the business actors enjoying relatively less power.

In light of the results of the study we think that employing a localized actor based (consumer) perspective and focusing only B2C markets might not be enough to address the challenge of poverty premiums. Analyzing BoP markets within a holistic supply chain wide perspective can help better address the challenge. The study has elaborated on the role of power and dependence in developing relationships in uncertain business environment of BoP. RDT considering power and dependence as the underlying forces shaping the inter-organizational relationships in volatile business environment, can prove to be a helpful tool for future researchers working to address the premium issue.

6.7. Conclusion

The paper presents qualitative findings of an empirical study focusing buyer-supplier relationships among indigenous micro-entrepreneurs in BoP. Findings of the study have been then evaluated in light of arguments presented by RDT. The study revealed that in accordance with published BoP literature the business in BoP is relationship driven. Indigenous micro-entrepreneurs appeared to prefer doing business with 'known ones'. However, in absence of market regulating institutions to overlook these business relationships and resulting business transactions, business interactions appeared to be opportunistic in nature. Furthermore, market power is generally perceived as an outcome of financial performance of a firm. Firms with relatively stronger financial muscle are perceived as powerful by other supply chain actors.

Suppliers are identified as the powerful supply chain actors in our case, which appeared to use their financial resources to mould inter-organizational relationship in their own favor. While doing so, advantaged actors try to increase dependence of other organizations upon themselves and decrease their own dependence upon them. Furthermore, while managing these interdependencies, care is taken to sustain and build power securing resources on sustainable basis. However, the strategy employed by respective business entities to achieve the three objectives i.e. maintain and increase their power, decrease their dependence on external businesses and increase dependence of other actors upon them differs depending upon their respective role in market/supply chain.

The study further revealed that in wake of power and dependence driven dyadic relationships relatively disadvantaged actors are paying a deficiency premium. The deficiency premium denotes the insufficient/deficient capital resources of respective firm. The poverty premium argument of the current BoP literature therefore can be traced back to B2B interactions in BoP. We thereby maintain that BoP scholars also need to consider and trace the source of poverty premium in B2C interactions upward a supply chain. It can be the case that a retailer charging a poverty premium to its already destitute customers, himself is paying the deficiency premium to its suppliers. Poverty premium thereby is just transferred down a supply chain and not something novel introduced by retailers serving final consumers in BoP.

The paper tries to extend the current B2C centered BoP literature by looking into B2B interactions. Responding to call of Ansari *et al.* (2012) for employing diverse theoretical infrastructure to analyze the case of BoP, we have used RDT to examine inter-organizational relationships in our case. Though the arguments of RDT are mainly employed to analyze the dyadic interaction between small manufacturers (suppliers) and retailers (buyers) in this paper, we are confident that the theory can be used to look into more diverse business interactions in BoP.

7. Discussion and conclusion

An overarching discussion drawing on the results of the four research papers is presented in this chapter. The discussion relates to the main research question of the study and the corresponding objectives. Conclusions regarding the nature of inter-organizational relationships and B2B business environment in BoP are presented at the very end of the chapter.

7.1. (S)SCM concepts in traditional BoP literature

The dissertation presents a first set of (S)SCM related constructs, frequently used in BoP literature. The findings of the two literature review based papers i.e. *putting sustainable supply chain management into base-of-the-pyramid research* and *analyzing base-of-the-pyramid research from a (sustainable) supply chain management perspective* (chapters 2 and 3 respectively) familiarize the reader of the dissertation with corresponding (S)SCM constructs. Some of the researchers have already pointed out existence of analogous concepts in (S)SCM and BoP related literature (Gold *et al.*, 2013; Sodhi and Tang, 2014, 2016). However, to best of our knowledge the dissertation for the first time interconnects the two respective research streams. The study thereby in line with arguments of Spens and Kovacs (2006), intends to bridge the two research streams together on foundations of sound methodological exploration of the literature. The assessment contributes to knowledge generation and allows for the identification of future research needs. The relevance of contemporary (S)SCM concepts addressing respective challenges in BoP thereby can be established on account of the findings of this research work.

Though originally considered as (S)SCM related concepts. The constructs of long-term relationship development, collaboration, stakeholder management, economic viability of supply chains, innovation and supplier development related issues are found to be recurrently mentioned in BoP literature. The findings of the study revealed that researchers and practitioners can gain much help for addressing BoP challenges from rich traditions of capability development and supplier collaboration and integration related research in (S)SCM. However, BoP should not be considered as just another aspect of the collaboration-centered (S)SCM literature. Rather, BoP markets demand novel solutions involving the apprehension of the unique conditions of informal market economies. This implies that business transactions are governed by market-specific informal institutions, instead of the practice of formal institutions overseeing market mechanisms in developed economies (Kolk *et al.*, 2014).

The desk research part of this research has also revealed that certain potentially relevant (S)SCM concepts are not part of BoP debate. For example, the (S)SCM construct of risk management can be anticipated of having high relevance to BoP in context of its uncertain business environment. It was however learned from the findings of the study that the risk management related issues failed to gather proper attention of the BoP researchers. Similarly, though absent or insufficient logistics related infrastructure remains a defining characteristic of BoP markets, it received surprisingly little attention. Supplier selection is yet another possibly significant construct so far ignored in BoP related literature. The findings of the dissertation thereby revealed that despite of being highlighted by scholars like Karnani (2007) and Kolk *et al.* (2014) the rationale of BoP has yet to mature on certain aspects of pro-activity.

Furthermore, another interesting finding was that Chen and Paulraj's (2004) competitive priorities related to cost, quality, speed, dependability and flexibility for driving supply chains in formal economies were scarcely to be seen in the selected BoP articles. Similarly, the pressure from stakeholders, governance and customers that Seuring and Müller (2008) considered primary in forcing firms to manage their business operations more sustainably was barely of relevance in the BoP literature. While the (S)SCM enabling factors identified by Chen and Paulraj (2004) and Seuring and Müller (2008) were hardly considered relevant in the BoP literature, the precursors of SSCM developed by Pagell and Wu (2009) — innovation and

proactive and committed management have regularly been referred to in the BoP-related debate (Tashman and Marano 2010). Similarly, the enabling SSCM constructs related to organizational culture, developed by Carter and Rogers (2008), have attracted comments from some BoP scholars. The present findings suggest that while the qualifying criteria for (S)SCM developed by Chen and Paulraj (2004) and Seuring and Müller (2008) seem inappropriate for BoP, the SSCM enabling factors developed by Pagell and Wu (2009) appear well suited to BoP markets, followed by those articulated by Carter and Rogers (2008).

Chapter 2 and 3 of the dissertation, in line with the first research objective of the study thereby provide an account of those (S)SCM constructs which are part of BoP literature. The literature review related findings of the dissertation therefore are first step towards apprehension of the principal aim of the study i.e. evaluation of the applicability of contemporary (S)SCM knowledge in BoP.

7.2. Enriching the theoretical basis of BoP rationale

BoP research stream considered "still in a pre-paradigmatic state of development as an academic field", needs sound theoretical foundations to build upon (Ansari *et al.*, 2012). Absence of theoretical infrastructure not only confines further development of BoP as an academic field but also restricts concerned researchers to present justifiable business proposals for development of marginalized sections of societies. In absence of an overarching theoretical framework, the two prime notions of BoP i.e. consumer oriented and producer oriented approaches, despite of certain commonalities seem contradicting each other. Consequently, to a new student of the subject, the BoP literature appears a bit polarized. Lack of theoretically admissible proposals in concerned literature and apparent absence of homogeneity in BoP related argumentation also restricts stimulating practitioner's interest to advance business oriented development agenda for BoP.

The extent dissertation against this context intended to provide BoP literature with theoretical constructs taken from a relatively more mature research stream. The results of the study presented in chapter 2 and 3 of the dissertation ascertain the relevance of certain (S)SCM principles in BoP. The systematic review of literature establishing the use of (S)SCM constructs in BoP not only intends to merge the two research streams but also provides BoP researchers with theoretically established concepts to work with. The dissertation can thereby be regarded as a step towards providing BoP a much demanded theoretical foundation. We would also like to highlight that, though certain constructs taken from different well established (S)SCM frameworks are found related to BoP research, a comprehensive (S)SCM framework satisfying the needs of BoP market has yet to be developed.

Chapters 4 and 5 of the dissertation, by employing the RDT to analyze the results of the empirical part of the research and business environment in BoP respectively, provide yet another theoretical lens to analyze BoP cases. By commenting on inter-organizational relationships in BoP from perspective of RDT the dissertation has tried to present reasons fostering relationship based business environment of BoP. Nature of inter-organizational relationships has also been elaborated using the same theoretical logic. The dissertation therefore not only provides theoretical constructs ((S)SCM) to manage BoP supply chains but also introduces future researchers with respective theoretical construction (RDT) to evaluate BoP business environment in general and inter-firm relations in particular.

Furthermore, it is worth mentioning that (S)SCM research largely being formal market focused speaks about issues related to the 'developed world'. The modern (S)SCM literature advanced in context of challenges and demands of relatively developed global north, is less fitting to the context of developing global south. By introducing contemporary (S)SCM constructs to BoP rationale, the study also anticipates opening new research frontiers for (S)SCM research. Informal market focused, future supply chain management research endeavors will thereby help scholars develop a more holistic knowledge base to satisfy the diverse needs of global supply chains linking developed and developing parts of the world.

The dissertation in line with second objective of the study, therefore try to enrich the theoretical basis of BoP by analysing the use of established (S)SCM constructs in BoP related literature and propositions of RDT to analyse empirical findings of the study. Nevertheless, we are fully aware of and maintain that further comprehensive studies are still needed to, establish the validity of yet other (S)SCM concepts not taken up in this research or explore novel concepts satisfying unique needs of BoP business environment.

7.3. Empirically relevant (S)SCM constructs at the BoP

Designed to evaluate *purchasing performance* of indigenous micro-entrepreneurs, empirical part of study brought forth two relevant (S)SCM constructs. The call for creation of inclusive business models in BoP (Hall and Matos, 2010; Halme *et al.*, 2012), by considering local communities as suppliers in respective supply chains, make it crucial to focus purchasing performance of indigenous businesses in BoP. Selected (S)SCM constructs out of the ones identified during the desk research phase of the study, were considered for empirical evaluation of their impact on purchasing performance of indigenous micro-entrepreneurs. The selection of (S)SCM constructs apart from the results of the literature review was partially based on the judgement of researchers. However, utmost effort was made to select the ones deemed as potentially relevant to the BoP business environment.

The results of the empirical analysis yielded two constructs having statistically significant relationship with purchasing performance of indigenous micro-entrepreneurs. Interestingly *supply chain partner development* appeared to have positive while *communication and coordination with suppliers* a negative significant relationship with *purchasing performance*. As has been elaborated in chapter 4 of this dissertation the results of the regression analysis have been further evaluated against RDT. RDT, speaking about the behavior of firms with their external environment while taking into consideration the factors like uncertainty, power and dependency in inter-organizational relationships is an appropriate theoretical concept to evaluate the volatile business environment of BoP. Though the aim of this dissertation is appraising the significance of (S)SCM concepts in BoP, it is worthwhile mentioning that RDT is employed to get a better sense of statistically significant correlations.

RDT suggests extensive relationships become a necessity of businesses to decrease the environmental uncertainty. In context of purchasing, the uncertain business environment of BoP compels respective firms to secure their supply lines. Indigenous micro-entrepreneurs are therefore inclined to nurture their supplier focused relationships to get access to and ensure an uninterrupted supply of strategic resources. The sample firms in order to strengthen their relationships thereby also consider developing operational and human capabilities of their

respective suppliers beneficial for their own business performance. The *Supply chain partner development* construct representing such activities in this study as long term relationship development, supplier operations and investment in human related capabilities should have a positive impact on purchasing performance. An analogous situation is observed by significantly positive correlation between supply chain partner development and purchasing performance of indigenous micro-entrepreneurs in empirical results of this study. The correlation also justifies (however partially) relationship based business environment of BoP.

RDT further asserts that in their inter-organizational relationships firms try to decrease their dependence on external environment and increase dependence of external supply chain actors upon themselves. Environmental uncertainty coupled with dominating intentions of respective firms not only encourages BoP businesses to establish extensive relationships with other supply chain actors but also to pursue their opportunistic endeavors for sake of vested interests. Firms achieve their dominating objective by getting control over respective critical resources they are interacting for at the very first place. The vested interaction for the sake of dominance in inter-organizational relationships is bound to cast its grey shadow on performance of interacting firms. Furthermore, earlier studies reveal that the results of such an interaction can become even bleak if the communication is informal in nature (Buvik and John, 2000; Caniëls and Gelderman, 2007). Since, informal communications are often used as a tool to expose private information and thereby drain power of disadvantaged supply chain actor. Communications and the resulting buyer – supplier interaction will thereby have a negative impact on the performance of respective firms. Similar picture is depicted by the inverse relationship between constructs of *communication and coordination with suppliers* and *purchasing performance* of the indigenous micro-entrepreneurs and explained in chapter 4 of this dissertation.

The empirical results of the study while illustrating the significance of (S)SCM constructs in BoP (research objective three) reveal indigenous micro-entrepreneurs particularly the disadvantaged actors engaged in buyer – supplier relationship hemmed in an interaction – purchasing performance paradox. The author of this dissertation therefore call the subject to be taken up by future researchers to further assess paradoxical relationships among (S)SCM constructs in BoP.

7.4. Extending poverty premium argument

The qualitative data gathered in line with the main survey detailed about B2B business environment in BoP. It is worthwhile to note that BoP research by far has mainly focused B2C issues, the corresponding empirical findings therefore will help advance understanding of B2B subject in larger BoP debate. Chapter 5 of the dissertation while presenting qualitative findings of the study extends poverty premium debate to B2B domain in BoP while also unveiling novel insights about buyer – supplier interactions in BoP.

Further elaborating the inverse relationship of respective (S)SCM constructs and plight of disadvantaged actor in buyer – supplier dyad discussed earlier, the qualitative part of the research depicts by and large the buyers being on the losing edge in BoP market transactions. Deficiency premiums (equivalent to 'poverty premiums' primarily discussed in B2C context in BoP literature (Agnihotri, 2013)) were found to be regularly charged from the disadvantaged business actors in B2B supply chains. The study thereby revealed that the phenomenon of paying poverty premiums is not specific to B2C business transactions, rather it also encompasses B2B dealings in BoP. Furthermore, the buyer – supplier relationships are gauged

by power of respective actors where, power itself depends largely upon and is perceived as an outcome of the capital/financial resources maintained.

The qualitative findings of the study also analyzed in backdrop of RDT, revealed that increase in depth and breadth of inter-organizational relationships is pursued as a business strategy by respective firms to offset negative effects of high market uncertainty. It was learned that in order to manage dependencies in its own favor, advantaged actor naturally tends to pivot more on the power it enjoys, while disadvantaged actor tries to increase the breadth of the relationship to showcase its trustworthy stature.

Respondents of the study largely maintained suppliers as being enjoying an advantageous position due to their relatively strong financial resources. Furthermore, suppliers in order to defuse external risks consider building and maintaining a loyal customer base crucial for survival of their business. The business strategy of BoP suppliers, in context of buyer-supplier relationships is focused at ensuring strong financial performance, build a loyal customer base and increase dependence of buyers upon themselves. Study revealed that, BoP suppliers succeed in achieving these three objectives mainly by using their financial muscle i.e. their power. Approached via certain 'common friends' suppliers offer destitute buyers facing capital constraints to purchase goods on a deferred payment mode. While doing so in return of their 'courtesy' suppliers charge above market price for their merchandise, a fragility/resource deficiency premium indeed. To continue the exploitative bargain, suppliers try to gradually reach an equilibrium where disadvantaged buyers while remaining unable to clear their bills in one go, continue to depend upon and purchase goods on above market prices.

The business strategy thereby in accordance with RDT enables advantaged suppliers; (1) to decrease external uncertainty by building a loyal consumer base (2) build their power by making disadvantaged buyers dependent upon them (3) maintain their power (financial resources) by charging above market rents and building a customer base and (4) decrease their own dependence upon external business actors (buyers).

On the other hand, it was learned that disadvantaged buyers try to reduce environmental uncertainty and manage interdependencies by focusing more on relationship building. To manage uncertainties and decrease their dependence upon other organizations (suppliers in this case), buyers tend to extend and diversify their supplier base. Unlike what has been advocated in (S)SCM literature in context of developed formal markets, expanding supplier base remains a practiced business strategy in BoP. The strategy is pursued by indigenous businesses, to increase their working capital by receiving supplies on a deferred payment mode and to ensure a continuous supply thereby averting supply related risks. The two mentioned reasons partially explain cause of consent of disadvantaged buyers to pay above market rents for getting their supplies. Having said that we think that, the extent to which the supplier extension and borrowing strategy remains beneficial for businesses in BoP needs careful scrutiny. Disadvantaged buyers were also found to use supplier relationships to offset competition and thereby increase their power. Having secured their supply base, the buyers try to increase breadth of relationships in their effort to strike some exclusive business deals. Trust worthy relationships gradually maturing into exclusive business partnerships helps buyers defuse competition in their local markets.

The disadvantaged buyers by virtue of their relationship building efforts and in accordance with propositions of RDT become able to (1) decrease supply related and financial uncertainty by

extending their supply base (2) decrease dependence on suppliers by building a diversified supplier base (3) increase their power by diffusing competition via entering into exclusive partnerships with their suppliers. Relationship building thereby plays a crucial role in realizing business interests of buyers in uncertain markets of BoP as proposed by RDT.

Nevertheless, the qualitative results of the study have also highlighted certain differences in supply chain management related issues in formal and informal markets. For example, while supply base reduction to streamline respective supply chains remains a popular notion in former, extending supplier base is perceived as an effective strategy to offset uncertainty in later markets. The author of this dissertation thereby maintain that though contemporary (S)SCM literature can offer useful insights to advance commerce based development agenda of BoP, further investigation of the subject needs to be undertaken to realign modern (S)SCM frameworks to meet unique requirements of informal markets.

7.5. Concluding remarks

At this point, a short overview of the study mirroring extent to which it succeeded in addressing the research question seems appropriate. BoP being an evolving narrative advocating to replace aid based with a business focused development agenda for impoverished societies has succeeded in gathering attention of management scholars in recent years. Journal special issues dedicated to BoP related themes (e.g. in *Journal of Business Research (2010)* and *International Journal of Physical Distribution and Logistics Management (2017)*) further highlight the interest of respective researchers in the subject. However, despite of this interest, some researchers have tried to draw attention towards absence of appropriate theoretical infrastructure to support further development of the discipline (Ansari *et al.*, 2012). Responding to the call, yet some other academics pointed out analogies in BoP and (S)SCM literature and claimed later can potentially satisfy the theory need of the former (Gold *et al.*, 2013). Appearance of some other publications at the (S)SCM – BoP intersection contributed towards further fortifying the claim (Sodhi and Tang, 2011, 2013; Matos and Silvestre, 2013). However, a holistic effort directed towards establishing relevance of (S)SCM concepts in BoP on scientific lines remained yet to be undertaken. Having identified the research gap, this study was commenced to bridge the two respective research streams. The 'bridge' will not only serve to provide BoP with the needed theoretical foundation but will also open new research frontiers to formal market oriented (S)SCM literature.

As a first step towards fulfilling the aim of the research, a comprehensive review of the respective literature has been undertaken to get a wholesome overview of the subject matter. The literature review along with identifying (S)SCM concepts which have been frequently mentioned in contemporary BoP literature, also helped understanding the contingencies among constructs in context of BoP. BoP focused (S)SCM models based on the results of contingency analysis have been developed and presented in the dissertation. The corresponding literature review part of the dissertation (chapter 2 and 3) establishes the literary relevance of (S)SCM constructs in BoP along with helping understand the correlations among (S)SCM constructs as depicted by their arbitrary use in BoP literature.

Purchasing has been mentioned in the BoP related literature as a potential activity that can be used by firms to create inclusive business opportunities for participants of BoP markets (Reficco and Marquez, 2012). Based on the expert advice, certain (S)SCM constructs, were shortlisted out of the results of literature review for evaluating their impact on purchasing

performance of indigenous entrepreneurs in BoP. The evaluation was intended to explore the empirical relevance of literature review results ((S)SCM constructs) in BoP. The results of the survey revealed trust and relationship development related activities have significant impact on purchasing performance of indigenous micro-entrepreneurs in BoP. RDT was employed to get a thorough insight into the empirical results. Analysis in backdrop of postulates of RDT exposed dominance focused asymmetric buyer – supplier relationships among BoP entrepreneurs. Furthermore, the empirical analysis disclosed indigenous entrepreneurs caught in a communication – performance paradox. The empirical part, by showing significance of certain (S)SCM concepts in BoP, have helped further establish the (S)SCM relevance claim of the desk research part of the study. Furthermore, unique insights about inter-organizational relationships have also been assembled during the course of the field investigation.

Sideline information gathered while conducting survey revealed suppliers as an advantaged actor with price premium issue not local to B2C transaction. An overarching supply chain focused approach encompassing B2B and B2C transactions in BoP is advocated to be more appropriate for addressing unique challenges in BoP e.g. challenge of poverty premiums.

In line with aim of the study, the research can be seen as a first step towards bridging (S)SCM and BoP research streams on theoretical and empirical fronts. The results of the study will thereby further help future researchers better understand B2B business environment in BoP and design novel research initiatives in context of presented findings.

Appendix

A

Journal wise distribution of BoP papers (Singletons are shown in *Appendix B*)

Journal title	No. of papers
Journal of Business Research	9
Journal of Business Ethics	6
Technovation	5
California Management Review	5
International Business Review	4
Entrepreneurship Theory & Practice	4
Journal of Management Studies	4
Journal of International Management	3
Journal of Product Innovation Management	3
Harvard Business Review	3
Organization	2
Journal of Management	2
MIT Sloan Management Review	2
Business Strategy and the Environment	2
Academy of Management Perspectives	2

Journals with single entries in base sample

1. Business horizons
2. International Journal of Technology Management
3. Journal of Academy of Marketing Sciences
4. Journal of Development Studies
5. Research Technology Management
6. Research Policy
7. Proceedings of National Academy of Sciences
8. Journal of International Business Studies
9. Journal of Production Innovation Management
10. Journal of Asian Pacific Economy
11. South African Journal of Economy and Management Sciences
12. Technological Forecasting and Social Change
13. IEEE Transactions on Engineering Management
14. Business and Society
15. European Management Review
16. World Development
17. Business Ethics Quarterly
18. Journal of Public Policy and Marketing
19. International Marketing Review
20. Global Strategy Journal
21. Strategic Entrepreneurship Journal

B

Strategic Purchasing		
	SP1	Purchasing is done from selected group of suppliers
	SP2	We purchase from wherever we get quality products at competitive price
Communication and coordination		
	CM1	We share sensitive information (financial, production, design, research, and/or competition) with our suppliers
	CM2	Suppliers are provided with any information that might help them improve their performance
	CM3	We keep each other informed about events or changes that may affect the other party
	CM4	We exchange business performance feedback with our suppliers
Technological integration with customers		
	TIC1	We involve key customers in product design and development stage
	TIC2	Our customers assist us in improving our operational technology (machines etc.)
	TIC3	We involve our key customers in business and strategy planning
Technological integration with suppliers		
	TIS1	We involve key suppliers in product design and development stage
	TIS2	We involve our key suppliers in business and strategy planning
	TIS3	We collaborate with our suppliers in improving mutual operational technology (machines etc.)
Supply chain partner development		
	Our firm has undertaken supplier development through	
	SPD1.1	Giving manufacturing related advice (e.g. processing, machine process, machine setup)
	SPD1.2	Giving technological advice (e.g. materials, software)
	By improvement of supplier capabilities through development of supplier	
	SPD2.1	He was able to strengthen his management capabilities
	SPD2.2	He was able to strengthen his manufacturing capabilities
	SPD2.3	He was able to strengthen his logistics capabilities
	SPD2.4	He was able to strengthen his product development capabilities
Supply chain network structure		
	SNS1	We consider doing business in networks more productive
	SNS2	I think I will be helped in difficult times by other business owners in vicinity
	SNS3	We try to establish trust based long term relationships with our suppliers
	SNS4	Our relationship with other business players can be termed as supportive instead of competitive
	To what extent do you think you have maintained any personal relationships with following	
	SNS5.1	Buyers
	SNS5.2	Suppliers
	SNS5.3	Competitors
	SNS5.4	Logistic service providers
	To what extent do you think you have maintained any personal ties with following	
	SNS6.1	Local political leaders
	SNS6.2	Banks
	SNS6.3	Tax officials
	SNS6.4	Local administration
	SNS6.5	Local communities
	SNS6.6	NGOs
Innovation		
	I1	We collaborate with SC partners for designing new products
Purchasing performance		
	Improving product and delivery performance through development of supplier has improved/reduced	
	PP1.1	The quality of products purchased from supplier
	PP1.2	The replenishment lead time of the products purchased from supplier
	PP1.3	The service of supplier deliveries
	PP1.4	The reliability of supplier deliveries

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The 77 papers contained in the sample analysed are marked with an *

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Base-of-the-pyramid (BoP) research talks about market based solutions for the development of marginalized sections of informal market economies. However, absence of sound theoretical foundations is obstructing development of the discourse. Relatively mature, (sustainable) supply chain management ((S)SCM) literature has many analogous concepts to the BoP research. The integration of the two research streams can not only provide BoP with the much needed theoretical infrastructure, but can also open new research frontiers for the (S)SCM research.

The extent dissertation is an effort to integrate the BoP and (S)SCM research. The results of the systematic literature review highlight the theoretical commonalities among the two research streams and led to development of certain frameworks based upon the results of contingency analysis. The empirical part of the dissertation tries to explore the (S)SCM practices significantly affecting the purchasing performance of indigenous BoP firms in a B2B context. Argumentation of the resource dependency theory is employed to get deeper insights into the empirical results of the study.