



---

Author: Dembek, Krzysztof; York, Jodi; Singh, Prakash J.  
Title: Creating value for multiple stakeholders: sustainable business models at the base of the pyramid  
Year: 2018  
Journal: Journal of Cleaner Production  
Volume: 196  
Pages: 1600-1612  
URL: <http://hdl.handle.net/1959.3/443932>

Copyright: Copyright © 2018 Published by Elsevier Ltd. his work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. <https://creativecommons.org/licenses/by-nc-nd/4.0/>

This is the author's version of the work, posted here with the permission of the publisher for your personal use. No further distribution is permitted. You may also be able to access the published version from your library.

The definitive version is available at: <https://doi.org/10.1016/j.jclepro.2018.06.046>

## **Abstract**

Addressing poverty at the Base of the Pyramid (BoP) using market-based approaches has proven very challenging. Studies built around traditional profit and customer focused business models adapted to the BoP context have yielded limited insight into how business models that address poverty work to create value for their various stakeholders. The lens of sustainable business models has been recently turned on the BoP with promising results. This study continues this approach and extends our understanding of how business models work in the BoP context. Based on primary and secondary data from 55 organizations addressing poverty in Indonesia and the Philippines, this study shows nine distinct business models addressing poverty. We classify the models by their activities and structure to create a BoP business model matrix and explain how these nine models use different activities, value approaches, value creation logics, value sources and capturing mechanisms to benefit different stakeholders. We find that one group of models, which aims to reorganize how BoP communities and the systems around them operate, has especially large value creation potential because it combines three distinct value creation logics to provide comprehensive solutions to complex problems. We explain limitations and provide guidance for future research and practice.

Word count: 10,658

## **1. Introduction**

Prahalad and Hart proposed that addressing the needs at the Bottom/Base of the Pyramid (BoP) presented a “prodigious opportunity for the world’s wealthiest companies to seek their fortunes and bring prosperity to the aspiring poor” (Prahalad and Hart, 2002b:1). After sixteen years and several iterative modifications however, this profit-driven approach to developing markets and alleviating poverty, has proven far more challenging than anticipated. Organizations struggle to address poverty and profit simultaneously, and often deliver effectively on neither goal (Arora and Romijn, 2011; Karnani, 2010; Simanis, 2012).

BoP literature and strategies often define the problem of poverty in terms of income and wealth, and presume that poverty can be resolved by applying familiar business models with minor adaptations. They incorporate the poor as consumers, distributors, and (less frequently) employees into conventional business models that focus on how “enterprise delivers value to customers, entices customers to pay for value, and converts those payments to profit” (Teece,

2010:172). In doing so, they fail to engage with the complexity of systemic poverty, which extends far beyond lack of individual market inclusion or material wealth to include of a range non-economic factors and diverse stakeholders. To address this complexity, we must look beyond tailoring products and services to profitably satisfy unmet material needs, and consider value creation for the BoP in much broader sense. Sustainable business models are much better suited to this purpose than business models focused on customers and profits only. This paper uses a sustainable business model lens to understand *how do business models that address poverty at the BoP work?* We address this research question through four specific objectives in order to learn how the studied business models create lasting value for various BoP stakeholders:

1. To identify and describe the different types of business models.
2. To explore how the different types of business model approach value and for whom they aim to create value.
3. To explore how different types business models created value.
4. To explore how the different types of business models ensure the stakeholders benefit from the value created.

Sustainable business models (SMBs) offer a fresh and broader perspective that allows us to see poverty as a social issue rather than simply as another market segment. While the exact definition of SBMs is still debated they are most often described as “a business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society” (Lüdeke-Freund, 2010:23). The SBM lens is especially suitable for the BoP context because it defines value broadly to include its social, environmental and economic aspects, and it considers multiple stakeholders rather than just customers.

While “BoP solutions” have been identified as a type of SBM (Bocken et al., 2014), studies of business models at the BoP using the SBM lens are scarce. Also little is known about how SBMs work in general (Dentchev et al., 2016). Further, both BoP and SBM studies to date have focused primarily on what these business models look like rather than how they work and their persistence in analyzing business models as a set of elements rather than as a system, has been recently identified as a limitation (França et al., 2017).

To address these gaps and focus on how the studied business models work in addition to what they look like, we adapt Zott and Amit’s (2010) activity approach to classify the business models implemented by 55 different organizations addressing poverty in Indonesia and the Philippines. The activity approach allows for a systemic perspective on what happens within a business model and how those activities are organized, which allows us to concentrate on the value creation logics of the business models rather than the underlying components. Because the activity system perspective on business models transcends organizational boundaries, it provides a full view of all actors and activities involved in the business model, including those external to the organization. All this is important considering the complexity of poverty that these business models address.

Indonesia and the Philippines were chosen as countries with large impoverished populations, both of which are understudied in the context of BoP research currently concentrated on India and African countries (Kolk et al., 2014). We used primary and secondary data to identify nine distinctive types of business models and investigate in detail how they work to create different types of value for multiple stakeholders. We combined these findings to create a three-by-three BoP business model matrix classifying the nine different business

models by their main activity focus and operational structure. We explain how each model employs distinct value creating mechanisms, and how it approaches value for specific stakeholder groups.

Our findings support applying the SBM lens for the BoP context and contribute to both literatures in three ways. First, we identified three different manners of structuring BoP business models (i.e. around an entity, project or platform), and identified reorganizing models as a new form of business model with significant value creation potential based on links between different value creation mechanisms. Second, our findings advance the understanding of how different forms of value can be created, and captured at the BoP. They suggest that adopting SBM perspective on value opens new opportunities to innovate more comprehensive and systemic approaches to alleviating poverty. In this broader SBM view, value is embodied in the relationships between stakeholders focused on mutual benefits, and economic value is the result of collaborative stakeholders' work rather than an independent driver of value creation (Matos and Silvestre, 2013). Our study also demonstrates how a single business model can have multiple value creation mechanisms that target particular stakeholder groups. To accommodate the broader view on value, we propose to expand the definition of value capture to include stakeholders beyond the business and its customers. Third, we advance a new way of assessing sustainability of a business model based on the degree to which the value creation and capture mechanisms do no harm and allow all the stakeholders, including the natural environment, to benefit from the activities.

For practice and policy, our findings suggest replacing the focus on specific products and single needs with one on issues and wellbeing, in order to enhance perception of poverty in all its complexity, and help create sustainable business models. To make way for their own

success, organizations focusing their business models on a complex issue need a transition/exit strategy to transform the business models or relocate once the issue is successfully resolved. Finally, the focus on issues and wellbeing requires support from policies enhancing multidimensional measures and reports of impact.

The rest of the study is organized as follows. In the next section, we review the literature describing the BoP context, the current use of business models at the BoP, SBMs, and how SBMs apply to the BoP context. This is followed by a discussion of the study's methodology and findings. Finally, we discuss our results in light of the existing literature and provide conclusions.

## **2. Theory**

### ***2.1 Business models at the Base of the Pyramid (BoP)***

BoP initially referred to the world's population with the lowest income (Prahalad and Hart, 2002a), but the term has since acquired additional uses. It is also used to mean BoP markets, strategies that develop these markets, and business initiatives. More broadly, some authors have referred to the BoP approach or concept as a body of strategies and knowledge on the topic (Kolk et al., 2014). Finally, BoP has also been used to refer to the context of poverty in developing countries. In this study, when we use BoP as a stand-alone noun, we mean the context of poverty in developing countries. For any other uses, we use BoP as adjective to modify other nouns e.g. market or strategy, to distinguish and clarify what we refer to.

Since its introduction in 2002, the BoP approach has gone through three distinct iterations. BoP 1.0 focused on adapting existing products for the poor (e.g., by reducing size of packages

of consumer goods) and expanding distribution channels (Arora and Romijn, 2011; Cañeque and Hart, 2015). Critics argued that this approach created a ‘mirage’ for businesses to chase and risked harming rather than helping the poor (Karnani, 2006, 2007, 2009). BoP 2.0 responded with greater emphasis on the local embeddedness and empowerment, shifting the focus from a top-down approach of ‘selling to the poor’ to one that seemed more bottom-up ‘engaging the poor’ through ‘business co-venturing’ and co-creating new products and services rather than just adapting existing ones (Arora and Romijn, 2011; Simanis and Hart, 2008). The most recent iteration of the BoP approach – BoP 3.0 – is still evolving. It builds on BoP 2.0 by broadening engagement efforts again while integrating environmental sustainability concerns along with a stronger triple bottom line perspective (Cañeque and Hart, 2015).

Through these iterations, many authors have advocated treating BoP ventures as any other business, using traditional business development techniques from Western markets (Akula, 2008; Anderson et al., 2010; Landrum, 2007). As such, the BoP approach has concentrated heavily on the pursuit of profits, growth and market development, while “encouraging market-oriented behavior in the poor” (Cooney and Williams Shanks, 2010:30). Efforts have concentrated in particular on innovation and entrepreneurship to develop and commercialize products and services to stimulate market behavior (Hall, 2014).

As a result of this approach, business models at the BoP largely retain a conventional customer and profit orientation while attempting to address the business development obstacles that characterize the BoP, such as confusion of need and demand, sales and distribution challenges, disaggregated providers, undeveloped business ecosystems (Karamchandani et al., 2011). For example, some authors propose skillful middle management and partnership with NGOs to decrease the level of involvement necessary from

for-profit companies in the initial phases of the business model development (Chesbrough et al., 2006; Halme et al., 2012; Seelos and Mair, 2007). Others suggest dividing the business model development process at the BoP in a series of steps that allow for gradual testing of the ideas and solutions (London, 2010; Thompson and MacMillan, 2010). Yet others provide diverse lists of success factors such as access to credit, establishment of alliances, and adaptation of the marketing mix (Pitta et al., 2008), building networks of companies with shared vision, an adequate resource strategy, and active involvement of social groups (Mair and Schoen, 2007), as well as embeddedness and inclusion of diverse stakeholders to enhance learning, and increase opportunities for setting innovative solutions (Sánchez et al., 2006). Such business-as-usual perspective defines the problem of poverty as insufficient income, and presumes that poverty can be alleviated through access to products and services and value chain participation opportunities that are tailored to different income-defined market segments (Esposito et al., 2012; Santos and Laczniak, 2009).

This business-as-usual perspective and economically-oriented view on poverty shows important mismatch when juxtaposed with a broader research and conceptualizations of poverty. Poverty has many different faces and is a systemic problem with a wide range of structural factors. For example, Sen (1981) highlights issues with ownership and exchange entitlement, while Nakata and Weidner (2012) define poverty as economic, physical, psychosocial, and knowledge deprivation, and Ansari et al. (2012) as lack of capabilities. Other poverty-related factors to consider for the BoP initiatives include adverse power relationships within poor communities; social-epistemological hierarchies between the poor and outsiders who administer poverty-reduction interventions; and local vulnerabilities induced by global currents in products, services, information and ideologies (Arora and Romijn, 2011). As a result of these and other factors BoP consumers may respond very



differently to the same organizational actions Martin and Hill (2012). This provides a glance on the complexity that BoP ventures face.

A number of authors indicated that addressing this complexity with business-as-usual strategies and business models may possibly increase quality of life for BOP consumers but are unlikely to alleviate poverty and may even have destructive social outcomes in some cases (Hall et al., 2012; Landrum, 2007). Others point out the high risk that adopting the business development techniques and economic development patterns of more developed countries with unsustainable consumption levels will aggravate other systemic problems such as climate change (Farias and Farias, 2010).

As a complex problem, not a mere collection of independent needs waiting for a market solution, poverty requires completely new business model solutions that account for multiple stakeholders, different types of value, and sustainable development (Anderson and Kupp, 2008; Farias and Farias, 2010; Foster and Heeks, 2013; Jun et al., 2013). The emerging research of SBMs seems to meet these requirements, and has recently named “BoP Solutions” as a type of SBM (Bocken et al., 2014). In the next section, we briefly review the literature on sustainable business models and then combine it with the BoP research.

## ***2.2 Sustainable business models***

Sustainable business models (SBMs) is an emerging field that has not yet reached widely accepted agreement on its key concepts and definitions (Yang et al., 2017). As an emerging field, it also requires more empirical research (Sousa-Zomer and Cauchick Miguel, In Press). While “conceptualization of sustainable business models can vary significantly throughout the literature” (Matos and Silvestre, 2013:63), many studies (e.g. Bocken et al., 2014; Sousa-

Zomer and Cauchick Miguel, In Press; Yang et al., 2017) use the Lüdeke-Freund (2010:23) description of a sustainable business model as “a business model that creates competitive advantage through superior customer value and contributes to a sustainable development of the company and society”. (For other definitions see e.g.:Garetti and Taisch, 2012; Geissdoerfer et al., 2016; Lüdeke-Freund, 2010; Matos and Silvestre, 2013; Schaltegger et al., 2011; Stubbs and Cocklin, 2008; Wells, 2013)

The notion of SBMs builds on the traditional business model concept and other literature. For example, Geissdoerfer et al. (2016) developed a SBM modeling process based on design thinking to enhance value propositions. França et al. (2017) combined elements of Business Model Canvas and Framework for Strategic Sustainable Development to propose a new approach to business model innovation and design for strategic sustainable development. Joyce and Paquin (2016) combined Business Model Canvas (Osterwalder and Pigneur, 2010) with product life cycle and stakeholder perspective to develop a triple-layered business model canvas.

While building on traditional customer and profit focused business models, SBMs have three distinctive characteristics that differentiate them from these traditional models. First, SBMs aim to create value not just for customers but for multiple stakeholders and the natural environment (Abdelkafi and Täuscher, 2016; Bocken et al., 2014; Stubbs and Cocklin, 2008). Stakeholder groups in the value creation equation can include the poor, non-profit organizations, society at large, and others (Bocken et al., 2013; Dahan et al., 2010; Mair and Schoen, 2007; Yunus et al., 2010). Second, SBMs research considers non-financial forms of value, such as social and environmental value (Bocken et al., 2014; Boons and Lüdeke-Freund, 2013; Boons et al., 2013). Third, sustainable business model research brings into

view the negative social and environmental impacts of some business models by considering not just value created, but value destroyed (e.g. environmental damage or community dislocation), and value uncaptured (e.g. computer skills training in a village with no computers) (Bocken et al., 2013, 2014; Yang et al., 2017).

These characteristics distinguishing SBMs from the traditional customer and profit focused business models, also make them overlap to varying degree with other business model types seen in the literature such as social business models (Yunus et al., 2010). Potential SBMs identified in the literature by Bocken et al. (2014:44) include “closed-loop business models (Wells and Seitz, 2005), ‘Natural Capitalism’ (Hawken et al., 2005), social enterprises (Grassl, 2012), Product Service Systems (PSS) (Mont and Tukker, 2006; Tukker, 2004) and new economy concepts (e.g. Blue Economy; Pauli, 2010)”. This clearly suggests that a business model may actually belong to more than one category.

The diversity of SBMs is complemented by a range of purposes they serve. Some studies positioned SBMs as means to implement sustainable innovations (Boons and Lüdeke-Freund, 2013; Rosca et al., 2017), or improve a part of value chain or an activity (Floden and Williamsson, 2016). Those with broader scope seek to increase a firm’s “economic, environmental, and social effectiveness” on a diverse range of issues like resource conservation, emission reduction, resilience to external shocks, healthy profit-reinvestment ratios, healthy ownership structures, secure and meaningful employment, and intra- and intergenerational equity (Geissdoerfer et al., 2016:1219); and most broadly to resolve social and environmental issues (Dentchev et al., 2016). This last purpose presents arguably the greatest value creation potential of SBMs and makes it especially promising for the BoP due to its potential to address the complexity of poverty discussed in the previous section.

Bocken et al. (2014) organized the great diversity of SBMs by identifying eight archetypes: maximize material and energy efficiency; create value from ‘waste’; substitute with renewables and natural processes; deliver functionality rather than ownership; adopt a stewardship role; encourage sufficiency; re-purpose the business for society/ environment; and develop scale-up solutions. Repurpose the business for society/environment is especially relevant for this study as it contains “BoP Solutions” as a distinct type of SBMs. Not all business models at the BoP however are automatically sustainable, which creates a need for a way to determine which business models can be considered sustainable and which cannot (Rosca et al., 2017).

While SBMs can take both system-level and firm-level perspectives (Stubbs and Cocklin, 2008), it is the systemic perspective that enables them to address social and environmental issues, and is thus of particular interest in this study of how business models address poverty. Systemic SBM studies are rare, and their scarcity has been identified as “a major barrier to sustainable business model innovation and design” (França et al., 2017:156). A notable recent examples of the systemic SBM approach are studies using the product-service system that reconsiders “the delivery of functional value to end-users through an integrated mix of product and service” (França et al., 2017:156). The product-service systems perspective provides a more comprehensive view and creates more opportunities for resolving issues than single product or service-based models (Gelbmann and Hammerl, 2015; Sousa-Zomer and Cauchick Miguel, In Press).

Many SBM studies, both systemic and firm-level, adapt business model canvas developed by Osterwalder and Pigneur (2010) to describe business models as a set of elements. There is

lack of agreement within this trend on which specific elements should constitute a business model (Rosca et al., 2017), and the approach has been recently criticized for its limitations and “demerits”, such as lack of third party stakeholder representation (Floden and Williamsson, 2016:428). Understanding business models as sets of elements, whether those suggested by Osterwalder and Pigneur (2010) or others, is useful to describe *what* SBMs may look like but, provides little perspective to understand *how* the business models actually work to create lasting value for stakeholders. As Dentchev et al. (2016:1) noted in the call for this issue “it is not yet well researched or understood how alternative, often new, creative or innovative sustainable business models function and how their application in the real world evolve to create value without predominantly generating only profit in their ventures”. In the next section, we bring together the literature on SBMs and BoP.

### **2.3 *Applying sustainable business models to the BoP context***

SBMs present a natural fit for the BoP context for a range of reasons (Matos and Silvestre, 2013). BoP and SBM research share several common foci such as innovation (Boons and Lüdeke-Freund, 2013; Hart and Christensen, 2002), creation of social, environmental and economic value, called mutual value at the BoP (Bocken et al., 2014; London et al., 2010).

SBMs also appear more suited than traditional profit and customer focused business models to address the specific challenges of the BoP context. First, the multi-stakeholder approach of SBMs allows community impact to be deeply integrated into the core of a business model, which is necessary if it is to generate social value (Sinkovics et al., 2014). Secondly, SBMs have less focus on short-term profit maximization (Dentchev et al., 2016), which allows for a much-needed patient approach to business and market development. The unmet needs of the BoP do not in and of themselves create a market for products and services (Garrette and

Karnani, 2010), and creating markets where they do not already exist may require significant time and effort. Thirdly, systemic aspects of SBMs such as a product-service system perspective may help addressing challenges related with the distribution and improve the value of offers for the poor (Karamchandani et al., 2011; Sousa-Zomer and Cauchick Miguel, In Press).

Finally, research repeatedly confirms that there are no silver bullets for the BoP. Technology which “will never represent the complete solution for companies’ sustainability problems” (Silvestre and Neto, 2014:809). Neither is entrepreneurship a panacea for sustainability and problems at the BoP (Hall et al., 2012). These factors need to be complemented by adequate, sustainable, and stakeholder oriented business models (Anderson and Kupp, 2008; Foster and Heeks, 2013; Jun et al., 2013). SBMs fit this prescription well.

Despite the apparent fit between the two areas, studies have only recently begun applying SBMs to the BoP context. For example, Matos and Silvestre (2013:61) studied stakeholder relationship management during SBM development in Brazilian electricity and biofuel markets and concluded that “a combination of approaches promoting the participation of a diverse number of local stakeholders, encouraging both learning and capability building and shifting stakeholder values from single to multiple objectives are critical to overcome the challenges of stakeholders conflicting interests”. In another study on SBM development in the electricity sector, Bittencourt Marconatto et al. (2016:746) showed that a “government agency can be mobilized to build an innovative SBM in the BoP context” and that using native capability can “aid rather than disrupt the process of building SBMs to serve the poorest”. Sousa-Zomer and Cauchick Miguel (In Press) approached SBMs as a product-

service system to study how SBM development supported the delivery of an innovative technology and sell drinking water in Brazil.

These pioneering studies combining SBM and BoP focused on business model development to provide product or service addressing a particular need such as access to electricity or water. They also focused on a specific aspect within the business model development: stakeholder interests and management (Matos and Silvestre, 2013), role of government (Bittencourt Marconatto et al., 2016), and technology delivery (Sousa-Zomer and Cauchick Miguel, In Press). These studies provide empirical evidence of the usefulness of SBMs in the BoP context. They however do not address poverty as a broader and complex issue, while the ability to address complex issues is possibly one of the greatest potentials of SBMs.

Rosca et al. (2017) have taken a step further to address this potential, using the SBM lens to explore 59 cases of products and services at the BoP trying to answer the question of “How can frugal and reverse innovation strengthen sustainable development, and how can business models in this context be systemized and described?”. The authors classified the cases using seminal SBM archetypes by Bocken et al. (2014) and found that “entrepreneurs and companies offering frugal and reverse products and services manage to combine the business model elements in an insightful manner and create economic, social and environmental value” (Rosca et al., 2017:S133). This study demonstrates two other important insights about SBMs in the BoP context. First, not all BoP solutions can be considered SBMs. The authors were unable to allocate about 20% of the cases to any of SBM archetypes. Second, they found that “BoP Solutions” business models, classified by Bocken et al. (2014) as a type of the ‘repurpose the business for society/environment’ archetype, were not uniform; instead the cases were allocated across all the eight archetypes. Like other BoP and SBM studies, Rosca

et al. (2017) focused on particular products or services, distinguishing themselves by the large number of them included in the study. By focusing on specific products or services, they show *what* the business models supporting these products and services look like but their study only sheds light on *how* they work in terms of strengthening sustainable development.

Therefore, we build on Rosca et al. (2017) and other previous work combining SBM and BoP context, and address the gaps identified above. In particular, we look beyond the focus on specific products, services or sectors to focus on addressing poverty as a broad issue. Thus our study treats the BoP not as a market segment but as a context in which the complex issue of poverty occurs. Rather than limiting our sample to SBMs, we draw in many business models seeking to address BoP poverty and use the SBM concept as a multi-stakeholder analytical lens to focus our study on *how* the explored business models work, rather than looking only into *what* they look like. Following Rosca et al. (2017) and Boons et al. (2013), we use a comparatively large sample of 55 business model cases. Finally, we use system perspective answering the call for such studies (França et al., 2017). In the next section we explain the details of how we conducted the study.

### **3. Methods**

#### **3.1 Research strategy**

This study addresses the question of *how do business models that address poverty at the BoP work?* More specifically, how do they create lasting value for various BoP stakeholders? As illustrated in the literature review the area of our work is relatively unexplored as most of the studies so far have focused exclusively on what the business models look like. It thus requires mapping new theoretical territory rather than testing explicit hypotheses. Multiple



case studies and grounded theory are especially suited in such situations especially for answering the “what” and “why” questions (Charmaz and Belgrave, 2012; Yin, 2014). We draw from both, exploring business models implemented by 55 organizations. This approach linking elements of multiple case study and grounded theory, was used by Rosca et al. (2017) in their business model analysis of frugal products and services published recently in the *Journal of Cleaner Production*. Like ours, their study was an empirical exploration of multiple business models in the BoP context using SBM lens. Thus we follow the methodological path pioneered by Rosca et al. (2017), which suits our research question, and is validated by previous research.

Our interest in how these business models work to create lasting value for various stakeholders drives our use of the SBMs as lens in two ways. First, we focus on relationships of value creation and value capture for specific stakeholders, while maintaining relative agnosticism on the specifics elements such as revenue models beyond their existences as a means of delivering value to specific stakeholders. Second, we depart from using an element-based view such as business model canvas (Osterwalder and Pigneur, 2010) or integrated business model (Richardson, 2008) deployed by many previous SBMs studies, to adopt an activity system approach, which conceptualizes the business model “as a system of interdependent activities that transcends the focal firm and spans its boundaries” (Zott and Amit, 2010:216). Being activity-centered this approach is especially useful for analyzing *how* the business models work.

The activity system approach analyzes the activities that make up the business model in terms of activity *content*, or the type of activities performed in the business model; activity *structure* meaning the relationships among the activities that show how they are organized;

and activity *governance*, meaning their distribution across the system which provides information on who performs them (Zott and Amit, 2010). This activity system perspective is especially valuable in the BoP context where companies often collaborate with a number of different groups and organizations, creating business models that transcend organizational boundaries (Hart and Sharma, 2004).

Based on the above and on our literature review we address the research question through four specific objectives:

1. To identify and describe the different types of business models.
2. To explore how the different types of business model approach value and for whom they aim to create value.
3. To explore how different types business models created value.
4. To explore how the different types of business models ensure the stakeholders benefit from the value created.

### **3.2 Sample and data**

Indonesia and the Philippines are understudied in the BoP context where most of the existing research focuses mainly on India, China and some African countries (Kolk et al., 2014).

These two countries were chosen for their similarities and key differences—both are populous post-colonial countries (more than 250 and 100 million people, respectively), with a substantial percentage of these populations living below the national poverty line (around 40% in Indonesia<sup>1</sup> and 26% in the Philippines<sup>2</sup>). Religion is a key cultural difference that influences their approach to poverty: Indonesia is predominantly Muslim, while the Philippines predominantly Christian.

---

<sup>1</sup> Source <http://www.worldbank.org/en/country/indonesia/overview>

<sup>2</sup> Source: <https://psa.gov.ph/tags/poverty>

We constructed a purposeful, geographically diverse sample through online searches, using a combination of keywords such as: poverty, business and markets, and a snowball sampling process with respondents and other practitioners (Creswell, 2013). The purpose was to capture the broadest possible diversity of business models and value creation approaches to allow for heterogeneity and evaluation of business models across different contextual factors within these internally diverse countries (Yin, 2014). In particular we selected for sample variance on the following organizational characteristics:

- Rural and urban operations
- For-profit and non-profit structures, to capture the many hybrid organizations working at the BoP, whose formal registration may not actually reflect their true diverse organizational logic (London, 2010; London et al., 2010).
- Registered and informal organizations, after observing organizations functioning as informal groups, registering only part of their activities, or using the registration of other organizations to avoid what they perceived as costly and complicated administrative processes.
- Organizations in a range of sectors, sizes, and stages of development, limited only by the requirement that they were based in the country in question, had been in operation for at least one full year and could articulate their business model.

Both primary and secondary data were collected. Primary data included semi-structured interviews with each organization's founders, CEOs or other top managers; that is, the main decision-makers responsible for the design and implementation of business models. In some cases we also conducted interviews and focus groups with external and internal stakeholders,

site visits and observations. These respondents and formats were chosen to provide rich data on the studied topic involving multiple perspectives and enabling triangulation. During the interviews and focus groups we included open, intermediate and ending questions, looking first broadly at the phenomenon as suggested for grounded theory-based research (Charmaz and Belgrave, 2012). This allowed us not to force answers in any preconceived categories (Glaser, 1978), and deepen and return to specific topics if needed.

CEOs and other top managers were asked about what the problem the organization addressed looked like, activities undertaken to address the problem, who was affected by these activities and how, the economics, definition and measures of success, as well as enablers and obstacles of this success. External and internal stakeholders included members of impoverished communities, investors, mentors, customers, employees, donors, suppliers, and distributors. They were asked questions about their own and organization's activities, their involvement in the activities of the focal organization, motivations for this involvement and impacts that this involvement generated for them.

Secondary data included organizational websites, press releases, blogs, and other publicly available sources. Data in the Philippines were collected in English by the lead researcher over four visits to the country, and several skype conversations. Data in Indonesia were collected by the lead researcher and a team of Indonesian scholars. The interviews in Indonesia were conducted in English where possible, and otherwise in Bahasa Indonesia. The interviews in Bahasa Indonesia were conducted by the Indonesian scholars, or by the lead researcher with the help of an interpreter. All interviews were recorded and transcribed verbatim, and those conducted in Bahasa Indonesia were translated into English. Table 1 below provides further details about the data collected.

**Table 1**  
**Data Inventory**

<b>Data type</b>	<b>Description</b>	<b>Quantity</b>	<b>Information obtained</b>	<b>Original data format</b>
<i>Primary Data</i>				
Interviews	CEOs, Co-founders and top managers organizational leaders. Each interview lasted approximately 90 minutes.	55 (all cases)	Data on business models, addressing poverty and related problems, and value	Audio recordings
	Stakeholders (Employees, Investors, Suppliers, Distributors, Customers, Donors, Mentors). Each interview lasted approximately 60 minutes.	25 (3 cases)	Data on involvement in business models, perceived value and impact of this involvement	Audio recordings
Focus groups	Members of impoverished communities. Each focus group lasted approximately 60 minutes.	4 (3 cases)	Data on living conditions, involvement in business models, perceived value and impact of this involvement	Audio recordings
Informal meetings	Lunch or dinner meetings with managers, founders, employees and investors. Each meeting lasted 70 minutes approximately.	Over 25 (11 cases)	Additional data on business models involvement, and value for stakeholders	Notes
Observational data	Visits to the communities and key sites with informal conversations with members of communities, and other stakeholders (ranging from 2 hours to 3 days in length)	12 (7 cases)	Data on details on: organizational activities obtained in different settings, relationship between stakeholders, value created, context in which organizations operate	Photos, field notes and memos

	Formal events attended (conferences, presentations with CEOs and organizational stakeholders – customers, mentors, investors) ranging from 1 to 6 hours in duration)	3 (3 cases)		
<b>Secondary Data</b>				
Documentation provided by companies	Reports, presentations, catalogues, procedures, and videos	Over 25 (12 cases)	Data on activities of studied organizations	Text, photos, and videos
Public information	Websites, blogs, Facebook pages, and press articles	Over 100 (all cases)	Data on activities of studied organizations	Text, photos

### 3.3 Analysis

We approached the data first using what Creswell (2013:199) calls direct interpretation, in which the “researcher looks at a single instance and draws meaning from it without looking for multiple instances”. The analysis was conducted by two researchers, one of whom was not involved in data collection, which allowed addressing potential subjectivity issues and together with the different data sources increase validity (Stake, 1995). We conducted a two-stage multiple case analysis: 1) within-case analysis to obtain an in-depth understanding of each of the models, and 2) cross-case analysis to identify additional patterns in the data and see how the studied business models are similar and different (Creswell, 1998).

Similar to Rosca et al. (2017), we analyzed business models according to the theoretical framework, in our study activity system framework (Zott and Amit, 2010), using a stakeholder theory-based perspective on value (Harrison and Wicks, 2013), leading to focus on five specific aspects of business models, as summarized in Table 2.

**Table 2**  
**Business model analysis and findings**

<b>Business model aspect</b>	<b>Description</b>	<b>Categories identified</b>
1. Activities performed	What the business model does	<ul style="list-style-type: none"> <li>– <b>Deliver</b> products and services to target communities</li> <li>– <b>Source</b> products and services from target communities</li> <li>– <b>Reorganize</b> ways in which communities and systems operate</li> </ul>
2. Structure, governance of activities and the underlying value creation logic	The way in which activities are related, organized and who performs them. The mechanism through which the activities create value	<ul style="list-style-type: none"> <li>– Entity, project, platform</li> <li>– Value Chain, Value Network, and Value Shop (Stabell and Fjeldstad, 1998)</li> <li>– Governance: own, community, third party</li> </ul>
3. Target stakeholders	Who is targeted by the activities and who will experience the impact created by the activities	<ul style="list-style-type: none"> <li>– Single</li> <li>– Dual</li> <li>– Multiple</li> </ul>
4. Value created	Explains how value is approached considering it broadly, not only in the economic sense	Three main approaches to value: single need, multiple need, wellbeing (Doyal and Gough, 1991)
5. Value sources and value capture mechanisms	Identifies the factors necessary to create value and mechanisms through which the value is retained by the company and the target stakeholders	<ul style="list-style-type: none"> <li>– Universal (e.g. design)</li> <li>– Structure/activity dependent (e.g. network size and content)</li> </ul>

We coded the data for the five aspects shown in Table 2. We *first* analyzed what activities are involved in the business model to understand what it actually does. *Secondly*, we determined how the identified activities were related, organized, and who performed them, revealing the underlying logic of value creation. The *third* step consisted of identifying the stakeholders impacted by the activities. The *fourth* step identified the value created by the activities in the business model. Finally, we identified value sources for the business model, and value capture mechanisms that ensured that the value created could be retained by target stakeholders. This analysis was conducted using NVivo in conjunction with hand coding. Combined, these five focal points provided a thorough understanding of how each business

model worked and the context in which it operated. Crosschecking the data and literature led to identification of categories in each of the aspects of analyzed business models, as shown in Table 2 above.

The cross-case analysis explored the potential patterns across categories. We conducted the analysis through repeated ordering and reordering of cases across the different categories identified (see Table 2) in the within-case analysis. This analysis explored how the categories were unified around the key theme of activities, similar to selective coding (Corbin and Strauss, 2007).

#### 4. Results and Discussion

The analysis yielded a classification of the 55 cases by primary activity type and structure into the three-by-three BoP Business Model Matrix presented in Table 3. Within rows and columns of the matrix, clear patterns emerged in terms of approaches to value, its sources, creation and capture, and target stakeholders providing a thorough insight into how the business models in each category work. Further the nine groups of business models had a specific main value to offer, as shown in each of the nine cells of the matrix in Table 3.

**Table 3**  
**BoP Business Model Matrix**

ACTIVITY	STRUCTURE		
	Entity	Project	Platform
<b>Delivering</b> n=16	Develop & deliver solutions for community needs n=6	Deliver one-off solution for existing community needs n=6	Sources & distributes community solutions n=4
<b>Sourcing</b> n=19	Sell own products n=15	Ad hoc social sourcing n=0	Access to markets n=4
<b>Reorganizing</b>	Explore complex problems with	Train communities and prepare to link	Leverage pre-existing resources to develop community capacity &



n=20	community and enact solutions identified  n=12	into enterprise activities  n=3	lasting systems to address problems  n=5
------	---	--	---

This section describes the different business models from Table 3 by activity groups (i.e. delivering, sourcing, and reorganizing), and then discusses the details of how they work to create value for different stakeholders, addressing the research question and objectives.

#### **4.1 Model types**

Addressing the first research objective of identifying and describing the different types of business models, we identified three distinct activity groups: (1) delivering products and services to BoP communities, (2) sourcing products and services from BoP communities, and (3) reorganizing how BoP communities and systems around them operated, for example, changing the transport systems or addressing complex problems such as illegal logging. While delivering and sourcing models have been mentioned in previous research, reorganizing models constitute an entirely new category.

These activities were structured into a logical whole in one of three ways: (1) set around a particular organization or *entity*, e.g. company producing and selling shoes, (2) organized in separate, temporary *projects*, e.g. building a micro power station; or (3) combined to create interactions among different stakeholders via a *platform*, e.g. matching buyer and suppliers. Combined, these activities and structures constitute nine models with distinct value offers (see Table 3).

**Delivering models** provide access to products or services to the BoP communities. Three structural frames in this group of business models are used for different overall value propositions.

- Entity-based delivery models [DE] are used to design and provide a specific, small number of solutions to community needs, such as solar lighting solutions for people in remote areas (e.g. Hybrid Solutions).
- Project-based delivering models [DPr] provide one-off solutions to community needs and are often used for infrastructure solutions, such as developing the optimal mix of technologies to provide power generation solutions for a given place (e.g. Ibeka).
- Platform-based delivering models [DPI] are used to source and distribute a large number of solutions to different areas, and may have a system to make them available in communities that need them most (e.g. Kopernik). These models target additional stakeholder groups and thus a broader value proposition than entity and project-based models.

**Sourcing models** are used to source materials, products, and services from the BoP communities and offer them to non-BoP markets locally and internationally.

- Entity-based sourcing models [SE] engage BoP communities in their value chain to create the organization's product or service (e.g. Habi Shoes).
- Project based sourcing models [SPr] are theoretically possible, but were not observed in our research<sup>3</sup>. This is unsurprising given that project-based models are characterized by temporality of their activities, which has very limited application for

---

<sup>3</sup> Some examples from the current refugee crisis are showcased here <http://europe.newsweek.com/syria-entrepreneur-refugee-jordan-464804>

sourcing materials, products and services (e.g. sourcing from temporary locations like refugee camps).

- Platform-based sourcing models [SPI] connect BoP producers with buyers, often by offering a mediating or introductory role between different groups in order to provide the BoP producers with increased access to markets (e.g. GKnomics).

**Reorganizing models** create new or modify existing systems and ways of life to benefit BoP communities. Often this involves addressing seemingly-unrelated issues that contribute to a problem, such formalizing changing public transit systems around electric vehicles with set routes and working conditions to reduce pollution (e.g. Eveei), and creating alternative development to eradicate illegal logging (e.g. Health in Harmony).

- Entity-based reorganizing models [RE] are used to address specific complex problems, such as illegal logging in a small number of communities (e.g. Health in Harmony).
- Project-based reorganizing models [RPr] are used to address a series of time-delimited problems toward a defined outcome in multiple locations, such as reorganizing communities in order to prepare them to create their own enterprises and link them to larger markets (e.g. NTFP).
- Platform-based reorganizing models [RPI] leverage pre-existing resources to develop community capacity and lasting systems to address problems in larger geographical areas (often in different countries; e.g. Girli).

#### ***4.2 Creating and capturing value for stakeholders***

We have argued in this paper that it is essential that we understand how various business models create value, and for whom. In this section, we seek to unpack this process with respect to forms of value, target stakeholders, value creation logics, value sources, and value capture mechanisms.

#### ***4.2.1 Forms of value & target stakeholders***

Addressing the second research objective we explored how the different types of business model approached value and for whom they aimed to create value. We found that: delivering models seek to address single needs within the BoP community (e.g. lighting), sourcing models address a defined set of needs within the BoP community (e.g skills development, income, and access to market), and reorganizing models focused on community wellbeing comprised of interconnected needs that change over time. Delivering models target a single stakeholder group in the BoP community, usually with the implicit assumption that the value will be multiplied within the community so that others will benefit. For example, a household that purchases a solar light is able to make safer and more productive use of nighttime hours for work, study, etc. Sourcing models target both an end-customer who will purchase a product and the BoP community member or member group who makes it. These needs are often economic in definition, or skills closely related to earning potential, and limited to only those households directly involved with the sourcing model. Reorganizing models target well-being of the larger community, which often means tackling complex community problems with many supporting structures or patterns.

#### ***4.2.2 Value creation logic***

Addressing the third research objective we explored how different types business models created value. Each business model has an inherent value creation logic/s of a type identified

by Stabell and Fjeldstad (1998): chain, shop and network. Chains create value by converting inputs into higher-value outputs, e.g. raw material into products. Shops solve problems through repeated iteration toward an optimal solution. Networks create value by mediating between stakeholders.

Delivering models are simplest, having a single dominant value creation logic. For example, a network configuration is used to link investors and borrowers to deliver micro-finance services (e.g. Amarth Finance). A shop configuration and thus problem solving approach allows project-based delivery models to identify and address issues related with setting up and running a project that does not follow a set formula within a known set of parameters, such as implementing a workable power generation solution or the best technology mix for a particular location (e.g. Ibeka). Platform-based delivering business models use a network logic to create value by aggregating possible solutions and matching the appropriate solutions with the specific needs of individual communities (e.g. Kopernik).

Sourcing models use dual value creation logics to create value for at least two different stakeholder groups. These models create value for customers through the utility of the product or service, and value for BoP communities by increasing their income. The customer side of the business may be a simple chain in the case of creating consumer goods like shoes and bag, or it may be a shop configuration for those providing skilled services like computer repair. Without accompanying community work, increased income for BoP communities tends to create rather than solve problems. Respondents universally reported greed, tensions, disputes, and other issues that had to be addressed and resolved on an ongoing basis. These community problems are addressed within the sourcing business models by adding a dedicated range of activities configured in a value shop to respond to evolving community

issues. Without this value shop, the customer-focused side of the business may be overwhelmed by the emerging social problems.

Reorganizing models use all three value creation logics to create value for multiple stakeholders. Addressing systemic problems and community wellbeing rather than discretely defined needs, requires a complicated, multi-level structure of value configuration with multiple value creation logics. A three-level structure where simultaneous value creation logics are embedded one into another is common. In this structure a value shop is created first to design the best approach using an iterative problem solving approach (monitoring, evaluating and adjusting as needed). Within this value shop, a value network links the necessary stakeholders to enact a comprehensive solution. Finally, the network has embedded within it series of activities addressing specific needs, which are configured in different ways (e.g. value chains). We demonstrate how this works in the example below.

Indonesian organization Rumah Cemara worked through a value shop process to identify social stigma as a major issue for current and former drug addicts, and the source of most of their challenges. On this basis, Rumah Cemara sought ways to address the stigma directly, and increase the social inclusion of that community. They created value networks to form relationships and systems to help shift this stigma, such as cross-community Olympics with other stigmatized groups, latitude from the government to address the drug addiction problem in a novel and community-based way. They addressed stigma in part by embedding within this network businesses like cafes and printshops (which operate using a simple value chain) to provide opportunities for public interaction and income otherwise unavailable to their community (who benefit from this linked family of businesses by being part of a Rumah Cemara network). As some needs are satisfied, new needs are uncovered (e.g. housing)

through a value shop process, and addressed through further chains. Through this iteration process, Rumah Cemara is able to build the overall wellbeing of its entire community.

It is important to note that changing systems and reorganizing ways of life requires involving multiple target stakeholders, including the power holders of the old system, if the change is to last. For example, to change a transport system, Getevee needed to engage the owners of old vehicles to be replaced, for whom the change was an immediate material threat.

Reorganizing models are characterized by high level of change and temporality, both by definition because they seek to change systems and ways of life, and also because of their complicated structural design. It would be very difficult for a reorganizing business model to start with a project or platform structure. Instead, they tend to start as entity-oriented models and grow into more complex structures. They can also transform into different types of models following a successful implementation of the new system or solution of a problem. For example, Health in Harmony managed to almost eradicate the problem of illegal logging in its area of operation and it is now transforming into entity-based delivery model that provides access to healthcare in this area.

An additional important insight is that business models in each activity group scale up through a different key mechanism. Delivering models scale up by identifying the same needs, for example lack of access to electricity, in new communities. Sourcing models scale up by developing markets where the products and services are sold. Reorganizing models scale up by repeating the same solution development process in a different location. They cannot be scaled up by simply growing or copying the solution from one place to another,

due to the complexity and important differences in context and situation of different impoverished communities.

#### **4.2.3 Value sources and value capture**

Addressing the fourth research objective we explored how the different types of business models ensure the stakeholders benefit from the value created, and where that value comes from. Our study identified a range of value sources and value capturing mechanisms, some of which were used universally across all the business models (e.g. design) while others were deployed only in those with specific activities or structures (network size).

Delivering models create value for communities mostly through the utility of the products or services addressing specific needs and can provide savings, improved health, or other outcomes. Organizations can generate income from the delivered products or services. Hence, design and quality of the product/service are the main sources of value for all delivering models, while both the organization and its target stakeholders capture or retain this value through pricing and post-sale service (e.g. indoor lighting must continue to work to deliver its utility and create value).

In addition to design and quality of the product or service, sourcing models generate value through scale. In the case of platform-based sourcing models that make their money through connecting customers to goods and services rather than directly selling, this means network size and content. The main value capture mechanism for both the focal organizations and the communities is a set of practices described by the respondents as ‘values formation’ (e.g.



development of values related to family, work, and finance) enable individual and community benefit from increased incomes and provide quality work.

Reorganizing models create value primarily through complementarities between activities and value creation logics. For example, creating employment for stigmatized populations, simultaneously reduces their social exclusion and generates income for several other services needed to solve the problem. In other words, important value-creation potential of these models comes from the way in which their different value configurations and individual activities are connected.

## **5 Discussion**

This study provides a detailed insight into *how* business models addressing poverty at the BoP work to create lasting value for multiple stakeholders. This work addresses the lack of empirical research involving SBMs and responds to the lack of BoP and SBM studies on how these models function (Dentchev et al., 2016; Rosca et al., 2017; Sousa-Zomer and Cauchick Miguel, In Press). We found an array of distinct models that work to create value in different ways and in many non-financial forms. These models (1) deliver products and services to BoP communities, (2) source products and services from BoP communities, and (3) reorganize how BoP communities and systems around them operate, for example, changing the transport systems or addressing complex problems such as illegal logging. Our findings provide further support for the analytical value of applying the SBM lens to the BoP context, as initiated by several recent studies (Bittencourt Marconatto et al., 2016; Matos and Silvestre, 2013; Sousa-Zomer and Cauchick Miguel, In Press). Both areas can benefit from each other and our findings contribute to both in three main areas: (1) design of business

models, (2) functioning of value creation and capture with multiple stakeholders, and (3) recognition of SBMs.

First, in order to better focus on *how* these business models create value, our study departed from the element-based approach to business models common in the BoP and SBM literatures, to analyze business models as systems of activities. This systemic view allowed us to identify details that would have been difficult if not impossible to see using an element-based view. Especially, we identified three different ways of structuring BoP business models (i.e. around an entity, project or platform), and identified reorganizing business models as a new type with significant value creation potential in a range of circumstances.

Second, using the SBMs lens with a stakeholder perspective on value creates a unique setting to understand how multiple forms of value are created and captured. Our findings indicate that adopting the broader definition of value used within SBMs reveals new opportunities to innovate more comprehensive approaches to alleviating poverty, as illustrated by reorganizing models. This provides an alternative to using traditional business development techniques from Western markets (Akula, 2008; Anderson et al., 2010), that have been criticized as capable improving some aspects of poor peoples' lives but unable to alleviate poverty Landrum (2007), and capable of causing "more harm than good" in some cases (Hall et al., 2014:286). While a broader view of value is not new to BoP research (London et al., 2010), we suggest that the next iteration of BoP 3.0 would benefit from a closer adoption of this view and from greater integration with the existing SBM insights.

Our findings also support suggestions by Matos and Silvestre (2013) that value in this broader view is embodied in the relationships between stakeholders. This highlights the value

creation potential of focusing on mutual benefits. Some of the entrepreneurs in our study dedicated up to three years to relationship development before they decided to start implementing their business models. In light of this, the economic value generated by these models appears to be “the result of the collaborative work of stakeholders to improve everyone’s circumstances and not the sole driver of value creation” (Matos and Silvestre, 2013:64).

Further, while previous BoP literature referred to social and environmental profits (Joyce and Paquin, 2016; Yunus et al., 2010), it has often left these concepts both undefined and undifferentiated by stakeholder. Differentiating value by stakeholder is important because the perception of value likely to change among the stakeholders and even within the same stakeholder over time (Peppard and Rylander, 2006). Our study demonstrates how a single business model can have multiple value creation mechanisms targeting particular stakeholder groups, such as separate communities, clients etc, For example, sourcing models used two value creation logics: creating value for customers and producers by transforming inputs into outputs (products), and creating value for the community by means of a value shop process to address emerging social issues.

The definition of value capture as the way in which an organization converts incomes into profit (Richardson, 2008) is too narrow for the scenarios described above. In order for the diverse forms of value to be captured by stakeholders, our understanding of value capture must likewise be extended to consider each of the stakeholder groups. For example, Habi Footwear found that generating more income for the poor families (creating value) was not enough to ensure they benefited. Instead, increased income had the unintended consequence of creating conflicts that left the community worse off in terms of wellbeing, and created

serious economic problems for the company. To prevent causing more harm than good, as suggested by Hall et al. (2014), income increases must be carefully timed and accompanied by a value capture mechanisms such as training and conflict resolution.

Third, the insights developed in this study about the concept of value, and its creation and capture mechanisms shed a new light on assessing a business model's sustainability. While BoP Solutions are recognized as a type of sustainable business models, not all the business models at the BoP are sustainable (Bocken et al., 2014; Rosca et al., 2017). Building on this study and recent work by Upward and Jones (2016), our findings suggest that value creation and value capture mechanisms for the different stakeholders play an important role in determining of the extent to which a business model is sustainable. Upward and Jones (2016:105) contend that "a strongly sustainable business model must provide the organization a foundation for guiding the co-creation of value with all an organization's stakeholders". Organizations with strongly sustainable business models do no harm, and create positive social, environmental and economic value and thus sustain "the possibility that human and other life can flourish on this planet forever" (Upward and Jones, 2016:103). With this definition, what determines a business model's sustainability is the degree to which its value creation and capture mechanisms do no harm and allow all the stakeholders, including the natural environment, as suggested by Bocken et al. (2014), to benefit from the activities in the business model.

Based on the above, any type of business model identified in our BoP business model matrix can be sustainable, depending on how the value creation mechanisms affect the stakeholders, and whether value capture mechanisms are in place to ensure that stakeholders actually benefit from the value created. These value effects can only be determined in reference to the

entire value network, as suggested by Upward and Jones (2016). This is why it is so important to analyze the sustainability of business models as systems of activities, and this is why lack of systemic view may indeed be a serious barrier to SBMs innovation and design (França et al., 2017). This approach to assessing the sustainability of business models can be used beyond the BoP context.

Our findings have also important implications for practice and related policies around SBMs and the BoP. They suggest that focusing on (1) issues rather than specific products or innovations and on (2) wellbeing instead of on satisfying single needs helps create sustainable business models, as defined by Upward and Jones (2016), by engaging with the complexity of poverty instead of reducing it to the income levels of the poor (Ansari et al., 2012; Arora and Romijn, 2011; Nakata and Weidner, 2012; Sen, 1981). Addressing issues and wellbeing enhances sustainable business models also because it encourages managers to seek complementarities amongst different activities and link the mechanisms of value creation and capture. These links, as illustrated by reorganizing models, create opportunities to incorporate yet more stakeholders and enhance the overall value creation potential of a business model.

Focusing on issues and wellbeing means a change of direction for both managers and researchers that have to date mostly focused on single needs and on implementation of specific products and innovations. Even recent SBM studies that adopted a systemic perspective, such as those based on Product Service Systems, target specific needs rather than wellbeing (Sousa-Zomer and Cauchick Miguel, In Press). BoP studies have similarly suggested focusing on needs that can be developed into markets, treating poverty alleviation

as a byproduct of market development (Akula, 2008). BoP 3.0 may advance in the direction suggested by our findings (Cañeque and Hart, 2015).

An important aspect that needs to be highlighted is that focusing on a complex issue, rather than a single need, requires organizations to have a transition/exit strategy. That means once the issue is successfully resolved, the business model should be transformed or relocated to a new place with a similar issue (this however will does not mean it should just be pasted elsewhere, a new reassessment and development process will most likely be needed). Finally, the focus on issues and wellbeing requires to be supported by policies enhancing measuring and reporting the overall impact, both negative and positive, using a range of economic and non-economic indicators (Hall et al., 2012).

## **6 Limitations and Future research**

Our study focused on a single key issue (poverty) in two Southeast Asian countries, and is inherently limited by its specificity. How should different value creation logics be connected to maximize the potential of success in different contexts (both within and outside the BoP)? Are some value creation logics more effective at creating particular forms of value than others? Does this differ between the less developed countries of our study and those countries with greater wealth and a more robust social safety net? Does it differ when environment-as-stakeholder features more prominently, as in questions of climate change, and other stakeholders compete to speak for it? These and other questions require investigation through future research.

Also, choosing activity system perspective on business models came at a cost of not exploring how elements such as cost structures and benefit streams behave in the studied

business models. Should these elements be tailored to the specific industries and areas of activity? What configurations of elements will best support addressing of poverty and other issues in models with multiple value creation logics? These are examples of questions that future research could investigate.

Another limitation of our study is that it could not measure performance of the different types of business models. Answering the question of what models are more successful and when is a natural next step. Finally, we suggest that business models focused on solving problems rather than just addressing single issues should have a transition/exit strategy that allows them to transform accordingly when the issue is solved. This is a novel proposal that invites further studying.

## **7. Conclusion**

We found an array of business models that (1) deliver products and services to BoP communities, (2) source products and services from BoP communities, and (3) reorganize how BoP communities and systems around them operate. Each of them can be set around a particular organizational *entity*, *project*, or *platform*. Delivering and sourcing models have been previously known (Smith and Pezeshkan, 2013), and this study extends the knowledge of how they work. Reorganizing models form a new category. Reorganizing business models are able to combine three different value creation logics (based on value chain, shop and network) to generate systemic change and comprehensive solutions to complex problems in a given location. Collectively, the nine models identified form a BoP Business Model Matrix, which we hope will serve both practitioners and researchers in studying, designing and implementing BoP solutions.

These findings support the use of SBMs lens and activity system perspective for the BoP context. Adopting the broader definition of value used within SBMs reveals new opportunities to innovate more comprehensive approaches to alleviating poverty, as illustrated by reorganizing models. This value is embodied in the relationships between stakeholders and the economic value appears as a result of their collaborative work. It also requires extending of the concept of value capture from focusing on profits for the organization to how diverse forms of value can be captured by all the stakeholders. Based on the insights developed in this study and recent work by Upward and Jones (2016), we propose a novel way to assess sustainability of business models. What determines a business model's sustainability is the degree to which its value creation and capture mechanisms do no harm and allow all the stakeholders, including the natural environment to benefit from the activities in the business model. This assessment can only be made from systemic perspective.

For managers and entrepreneurs who want to build sustainable business models, our findings suggest focusing on (1) issues rather than specific products or innovations and on (2) wellbeing rather than satisfying single needs. Doing so is likely to help perceiving the opportunities to create and link multiple value creation mechanisms in a business model and construct more comprehensive solutions. When focusing on issues it is important to include a transition/exit strategy that will allow the model to transform accordingly once the issue is solved.

Our findings suggest that there is enormous untapped potential to create value for multiple stakeholders beyond just products and services, and especially thorough combining multiple value creation logics in one business model. The combination of multiple value creation



logics in a single business model can be useful also outside of BoP context to unleash the problem solving potential of SBMs. This underexplored area, and opens a new path for research.

## Appendix A: Directory of Participating Organizations

Organization	Country	Model	Website
Four Eyes	Philippines	DE	foureyes.com.ph
Stiftung Solarenergie - Solar Energy Foundation (Philippines)	Philippines	DE	solar-energy-foundation.org
Nazava	Indonesia	DE	www.nazava.com
Kophi	Indonesia	DPI	kophi.or.id
Amartha Finance	Indonesia	DPI	amartha.com
BMT Yaqowiyyu	Indonesia	DPI	bmtyaqawiyyu.com
Ibeka	Indonesia	DPr	ibeka.netsains.net
CD Bethesda	Indonesia	DPr	<a href="http://www.cdbethesda.org">www.cdbethesda.org</a>
SNV (Indonesia)	Indonesia	DPr	<a href="http://www.snv.org">www.snv.org</a>
Dian Desa	Indonesia	DPr	www.diandesa.org
Bagosphere	Philippines	DE	<a href="http://www.bagosphere.com">www.bagosphere.com</a>
Hybrid Social Solutions	Philippines	DE	www.facebook.com/HybridSocialSolutionsInc/
Klik Eskuela	Philippines	DE	www.facebook.com/klikeskuela3
Kopernik	Indonesia	DPI	kopernik.info
Persada	Indonesia	DPr	No web available
Yayasan Rumah Energi (YRE)	Indonesia	DPr	www.rumahenergi.org
Coffee for Peace	Philippines	RE	<a href="http://www.coffeeforpeace.com">www.coffeeforpeace.com</a>
Electric Vehicle Expansion Enterprises Inc. (EVEEI)	Philippines	RE	<a href="http://www.eveei.com">www.eveei.com</a>
Getevee	Philippines	RE	<a href="http://getevee.com">getevee.com</a>
Rumah Cemara	Indonesia	RE	<a href="http://www.rumahcemara.or.id">www.rumahcemara.or.id</a>
Victory Plus	Indonesia	RE	<a href="http://www.victoryplusaids.org">www.victoryplusaids.org</a>
Health in Harmony	Indonesia	RE	<a href="http://www.healthinharmony.org">www.healthinharmony.org</a>
Garbage Insurance	Indonesia	RE	www.indonesiamedika.com/; www.changemakers.com/discussions/entries/garbage-insurance-clinic
Bali Recycling	Indonesia	RE	www.balirecycling.com
Centre for Community Transformation (CCT)	Philippines	RPI	cct.org.ph
Foundation for These-Abled Persons	Philippines	RPI	fti2009.com/index.php
Gawad Kalinga	Philippines	RPI	<a href="http://www.gklworld.com">www.gklworld.com</a>
Girli	Indonesia	RPI	No web available

Komunitas Untuk Jogja (KUJ)	Indonesia	RPI	<a href="http://www.facebook.com/komunitasuntukjogja.pengabdian.sosial.lingkungang/">www.facebook.com/komunitasuntukjogja.pengabdian.sosial.lingkungang/</a>
Build Change	Philippines	RPr	<a href="http://www.buildchange.org">www.buildchange.org</a>
NTFP	Philippines	RPr	<a href="http://ntfp.org">ntfp.org</a>
Danone Ecosysteme (Indonesia)	Indonesia	RPr	<a href="http://ecosysteme.danone.com">ecosysteme.danone.com</a>
Trees for Trees	Indonesia	RE	<a href="http://trees4trees.org">trees4trees.org</a>
Koperasi Desa Mina	Indonesia	RE	<a href="http://bbpse.litbang.kkp.go.id/index.php/402-desa-mina-yogyakarta-model-koperasi-pakan-ikan">bbpse.litbang.kkp.go.id/index.php/402-desa-mina-yogyakarta-model-koperasi-pakan-ikan</a>
Sekolah Kami	Indonesia	RE	<a href="http://www.sekolahkami.web.id">www.sekolahkami.web.id</a>
Paguyuban Sampah Sukunan Bersemi	Indonesia	RE	No web available
Akaba	Philippines	SE	<a href="http://www.akaba.co">www.akaba.co</a>
Anthill	Philippines	SE	<a href="http://www.changemakers.com/fabricofchange/entries/anthill-fabric-gallery">www.changemakers.com/fabricofchange/entries/anthill-fabric-gallery</a>
Bambike	Philippines	SE	<a href="http://bambike.com">bambike.com</a>
Bayani Brew	Philippines	SE	<a href="http://bayanibrew.com">bayanibrew.com</a>
Domesticity	Philippines	SE	<a href="http://www.mydomesticity.com">www.mydomesticity.com</a>
Habi Footwear	Philippines	SE	<a href="http://www.habifootwear.com">www.habifootwear.com</a>
Mabuhay Restop	Philippines	SE	<a href="http://www.mabuhayrestops.com">www.mabuhayrestops.com</a>
Sidlakpinoy	Philippines	SE	<a href="http://onestore.ph/index.php/home/product_view/2054/Sidlak-Pinoy-Bricks">onestore.ph/index.php/home/product_view/2054/Sidlak-Pinoy-Bricks</a> ; <a href="http://impactquarterly.asiaix.com/first-round-impact-accelerator-completed-philippines/#.V7U5qq5nTyd">impactquarterly.asiaix.com/first-round-impact-accelerator-completed-philippines/#.V7U5qq5nTyd</a>
Vesti	Philippines	SE	<a href="http://www.choosesocial.ph/organization/vesti">www.choosesocial.ph/organization/vesti</a> ; <a href="https://www.facebook.com/VESTI-202120546505720/">https://www.facebook.com/VESTI-202120546505720/</a>
Genashtim (Philippines)	Philippines	SE	<a href="http://www.genashtim.com">www.genashtim.com</a>
Plush and Play	Philippines	SE	<a href="http://plushandplay.com">plushandplay.com</a>
MAD Travel	Philippines	SE	<a href="http://madtravel.org">madtravel.org</a>
Torajamelo	Indonesia	SE	<a href="http://torajamelo.com">torajamelo.com</a>
Bimandiri	Indonesia	SE	<a href="http://bimandiri.co.id">bimandiri.co.id</a>
Sutelo	Indonesia	SE	<a href="https://sutelo.wordpress.com/">https://sutelo.wordpress.com/</a>
CMCC	Philippines	SPI	<a href="http://www.cmcrafts.org">www.cmcrafts.org</a>
Gifts and Graces	Philippines	SPI	<a href="http://www.facebook.com/gngfairtrade">www.facebook.com/gngfairtrade</a> ; <a href="http://www.giftsandgraces.com">www.giftsandgraces.com</a>
Gkconomics	Philippines	SPI	<a href="http://www.gkconomics.com">www.gkconomics.com</a>
Apikri	Indonesia	SPI	<a href="http://www.apikri.com">www.apikri.com</a>

## References

- Abdelkafi, N., Täuscher, K., 2016. Business models for sustainability from a system dynamics perspective. *Organization and Environment* 29, 74-96.
- Akula, V., 2008. Business basics at the Base of the Pyramid. *Harvard Business Review* June, 53-57.
- Anderson, J., Kupp, M., 2008. Serving the poor: drivers of business model innovation in mobile. *Info* 10, 5-12.
- Anderson, J., Kupp, M., Vandermerwe, S., 2010. Good business makes poor customers good customers. *Business Strategy Review*, 46-51.
- Ansari, S., Munir, K., Gregg, T., 2012. Impact at the 'Bottom of the Pyramid': the role of social capital in capability development and community empowerment. *Journal of Management Studies* 49, 813-842.
- Arora, S., Romijn, H., 2011. The empty rhetoric of poverty reduction at the base of the pyramid. *Organization* 19, 481-505.
- Bittencourt Marconatto, D.A., Barin-Cruz, L., Pozzebon, M., Poitras, J.-E., 2016. Developing sustainable business models within BOP contexts: mobilizing native capability to cope with government programs. *Journal of Cleaner Production* 129, 735-748.
- Bocken, N., Short, S., Rana, P., Evans, S., 2013. A value mapping tool for sustainable business modelling. *Corporate Governance* 13, 482-497.
- Bocken, N., Short, S., Rana, P., Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. *Journal of Cleaner Production* 65, 42-56.
- Boons, F., Lüdeke-Freund, F., 2013. Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. *Journal of Cleaner Production* 45, 9-19.
- Boons, F., Montalvo, C., Quist, J., Wagner, M., 2013. Sustainable innovation, business models and economic performance: an overview. *Journal of Cleaner Production* 45, 1-8.
- Cañeque, F.C., Hart, S.L., 2015. *Base of the Pyramid 3.0: sustainable development through innovation and entrepreneurship*. Greenleaf Publishing Limited, Sheffield, UK.
- Charmaz, K., Belgrave, L.L., 2012. Qualitative interviewing and grounded theory analysis, in: Gubrium, J.F., Holstein, J.A., Marvasti, A.B., McKinney, K.D. (Eds.), *The Sage handbook of interview research: the complexity of the craft*, 2 ed. Sage publications, Thousand Oaks, CA.
- Chesbrough, H., Ahern, S., Finn, M., Guerraz, S., 2006. Business models for technology in the developing world: the role of non-governmental organizations. *California Management Review* 48, 48-61.
- Cooney, K., Williams Shanks, T.R., 2010. New approaches to old problems: market-based strategies for poverty alleviation. *Social Service Review* March, 29-55.
- Corbin, J., Strauss, A., 2007. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage, Thousand Oaks, CA.
- Creswell, J.W., 1998. *Qualitative inquiry and research design: choosing among five traditions*. Sage Publications, Thousand Oaks, California.
- Creswell, J.W., 2013. *Qualitative inquiry and research design: choosing among five approaches*, 3 ed. Sage Publications, Thousand Oaks, California.
- Dahan, N.M., Doh, J.P., Oetzel, J., Yaziji, M., 2010. Corporate-NGO collaboration: co-creating new business models for developing markets. *Long Range Planning* 43, 326-342.
- Dentchev, N., Rupert Baumgartner, R., Dieleman, H., Johannsdottir, L., Jonker, J., Nyberg, T., Rauter, R., Rosano, M., Snihur, Y., Tang, X., van Hoof, B., 2016. Embracing the variety of sustainable business models: social entrepreneurship, corporate

- intrapreneurship, creativity, innovation, and other approaches to sustainability challenges. *Journal of Cleaner Production* 113, 1-4.
- Doyal, L., Gough, I., 1991. *A theory of human need*. Macmillan, Houndmills, England.
- Esposito, M., Kapoor, A., Goyal, S., 2012. Enabling healthcare services for the rural and semi-urban segments in India: when shared value meets the bottom of the pyramid. *Corporate Governance* 12, 514-533.
- Farias, C., Farias, G., 2010. Cycles of poverty and consumption: the sustainability dilemma. *Competitiveness Review: An International Business Journal* 20, 248-257.
- Floden, J., Williamsson, J., 2016. Business models for sustainable biofuel transport: the potential for intermodal transport. *Journal of Cleaner Production* 113, 426-437.
- Foster, C., Heeks, R., 2013. Innovation and scaling of ICT for the bottom-of-the-pyramid. *Journal of Information Technology* 28, 296-315.
- França, C.L., Broman, G., Robert, K.-H., Basile, G., Trygg, L., 2017. An approach to business model innovation and design for strategic sustainable development. *Journal of Cleaner Production* 140, 155-166.
- Garetti, m., Taisch, M., 2012. Sustainable manufacturing: trends and research challenges. *Production Planning and Control* 23, 83-104.
- Garrette, B., Karnani, A., 2010. Challenges in marketing socially useful goods to the poor. *California Management Review* 52, 29-47.
- Geissdoerfer, M., Bocken, N., Hultink, E.J., 2016. Design thinking to enhance the sustainable business modelling process e A workshop based on a value mapping process. *Journal of Cleaner Production* 135, 1218-1232.
- Gelbmann, U., Hammerl, B., 2015. Integrative re-use systems as innovative business models for devising sustainable product service-systems. *Journal of Cleaner Production* 97, 50-60.
- Glaser, B.G., 1978. *Theoretical sensitivity*. Sociology Press, Mill Valley, CA.
- Grassl, W., 2012. Business models of social enterprise: a design approach to hybridity. *ACRN Journal of Entrepreneurship Perspectives* 1, 37-60.
- Hall, J., 2014. Innovation and entrepreneurial dynamics in the Base of the Pyramid. *Technovation* 34, 265-269.
- Hall, J., Matos, S., Martin, M.J.C., 2014. Innovation pathways at the Base of the Pyramid: Establishing technological legitimacy through social attributes. *Technovation* 34, 284-294.
- Hall, J., Matos, S., Sheehan, L., Silvestre, B.S., 2012. Entrepreneurship and innovation at the Base of the Pyramid: a recipe for inclusive growth or social exclusion? *Journal of Management Studies* 49, 785-812.
- Halme, M., Lindeman, S., Linna, P., 2012. Innovation for inclusive business: intrapreneurial bricolage in multinational corporations. *Journal of Management Studies* 49, 743-784.
- Harrison, J.S., Wicks, A.C., 2013. Stakeholder theory, value, and firm performance. *Business Ethics Quarterly* 23, 97-124.
- Hart, S.L., Christensen, C.M., 2002. The great leap: driving innovation from the base of the pyramid. *MIT Sloan Management Review* 44, 51-56.
- Hart, S.L., Sharma, S., 2004. Engaging fringe stakeholders for competitive imagination. *Academy of Management Executive* 18, 7-18.
- Hawken, P., Lovins, A.B., Lovins, L.H., 2005. *Natural capitalism: the next industrial revolution*, 2 ed. Earthscan Ltd, New York.
- Joyce, A., Paquin, R.L., 2016. The triple layered business model canvas: a tool to design more sustainable business models. *Journal of Cleaner Production* 135, 1474-1486.
- Jun, S., Lee, D., Park, J., 2013. Determining business models in bottom-of-the-pyramid markets. *Industrial Management and Data Systems* 113, 1064-1082.

- Karamchandani, A., Kubzansky, M., Lalwani, N., 2011. Is the bottom of the pyramid really for you? *Harvard Business Review* 89, 107-111.
- Karnani, A., 2006. Misfortune at the Bottom of the Pyramid. *Greener Management International* 51, 99-110.
- Karnani, A., 2007. The mirage of marketing to the Bottom of the Pyramid: how the private sector can help alleviate poverty. *California Management Review* 49, 90-111.
- Karnani, A., 2009. Romanticising the poor harms the poor. *Journal of International Development* 21, 76-86.
- Karnani, A., 2010. Failure of the libertarian approach to reducing poverty. *Asian Business and Management* 9.
- Kolk, A., Rivera-Santos, M., Rufin, C., 2014. Reviewing a decade of research on the "Base/Bottom of the Pyramid" (BOP) concept. *Business and Society* 53, 338-377.
- Landrum, N.E., 2007. Advancing the "Base of the Pyramid" debate. *Strategic Management Review* 1, 1-12.
- London, T., 2010. Business model development for base-of-the-pyramid market entry. *Academy of Management Proceedings*.
- London, T., Anupindi, R., Sheth, S., 2010. Creating mutual value: lessons learned from ventures serving base of the pyramid producers. *Journal of Business Research* 63, 582-594.
- Lüdeke-Freund, F., 2010. Towards a conceptual framework of business models for sustainability. *Environmen. Manag.* 49, 1-28.
- Mair, J., Schoen, O., 2007. Successful social entrepreneurial business models in the context of developing economies: an explorative study. *International Journal of Emerging Markets* 2, 54-68.
- Martin, K.D., Hill, R.P., 2012. Life satisfaction, self-determination, and consumption adequacy at the Bottom of the Pyramid. *Journal of Consumer Research* 38, 1155-1168.
- Matos, S., Silvestre, B.S., 2013. Managing stakeholder relations when developing sustainable business models: the case of the Brazilian energy sector. *Journal of Cleaner Production* 45, 61-73.
- Mont, O., Tukker, A., 2006. Product-service systems: reviewing achievements and refining the research agenda. *Journal of Cleaner Production* 14, 1451-1454.
- Nakata, C., Weidner, K., 2012. Enhancing new product adoption at the Base of the Pyramid: a contextualized model. *Journal of Product Innovation Management* 29, 21-32.
- Osterwalder, A., Pigneur, Y., 2010. *Business model generation: a handbook for visionaries, game changers, and challengers*. Wiley, Hoboken, NJ.
- Pauli, G., 2010. *The Blue Economy. 10 Years, 100 Innovations, 100 Million Jobs*. Report to the Club of Rome Paradigm Publications, Taos, New Mexico, USA.
- Peppard, J., Rylander, A., 2006. From value chain to value network: insights for mobile operators. *European Management Journal* 24, 128-141.
- Pitta, D.A., Guesalaga, R., Marshall, P., 2008. The quest for the fortune at the bottom of the pyramid: potential and challenges. *Journal of Consumer Marketing* 25, 393-401.
- Prahalad, C.K., Hart, S.L., 2002a. Fortune at the bottom of the pyramid. *Strategy and Business* 26, 1-14.
- Prahalad, C.K., Hart, S.L., 2002b. Fortune at the bottom of the pyramid. *Strategy and Business* 26, 1-14.
- Richardson, J., 2008. The business model: an integrative framework for strategy execution. *Strategic Change* 17, 133-144.

- Rosca, E., Arnold, M., Bendul, J.C., 2017. Business models for sustainable innovation an empirical analysis of frugal products and services. *Journal of Cleaner Production* 162(Supplement), S133-S145.
- Sánchez, P., Ricart, J.E., Rodríguez, M.A.n., 2006. Influential factors in becoming socially embedded in low-income markets. *Greener Management International* 51, 19-38.
- Santos, N.J.C., Laczniak, G.R., 2009. Marketing to the poor: an integrative justice model for engaging impoverished market segments. *Journal of Public Policy and Marketing* 28, 3-15.
- Schaltegger, S., Hansen, E., Lüdeke-Freund, F., 2011. Business cases for sustainability and the role of business model innovation: developing a conceptual frame-work. CSM, Centre for Sustainability Management, Lüneburg. CSM, Centre for Sustainability Management, Lüneburg.
- Seelos, C., Mair, J., 2007. Profitable business models and market creation in the context of deep poverty: a strategic view. *Academy of Management Perspectives* 21, 49-63.
- Sen, A., 1981. *Poverty and famines: an essay on entitlement and deprivation*. Oxford University Press, New York.
- Silvestre, B.S., Neto, R.e.S., 2014. Are cleaner production innovations the solution for small mining operations in poor regions? The case of Padua in Brazil. *Journal of Cleaner Production* 84, 809-817.
- Simanis, E., 2012. Reality Check at the Bottom of the Pyramid. *Harvard Business Review* 90, 120-125.
- Simanis, E., Hart, S.L., 2008. *Base of the pyramid protocol: toward next generation BoP strategy*, Ithaca, NY.
- Sinkovics, N., Sinkovics, R.R., Yamin, M., 2014. The role of social value creation in business model formulation at the bottom of the pyramid - Implications for MNEs? *International Business Review* 23, 692-707.
- Smith, A., Pezeshkan, A., 2013. Which businesses actually help the global poor? *South Asian Journal of Global Business Research* 2, 43-58.
- Sousa-Zomer, T.T., Cauchick Miguel, P.A., In Press. Sustainable business models as an innovation strategy in the water sector: An empirical investigation of a sustainable product-service system. *Journal of Cleaner Production*, 1-11.
- Stabell, C.B., Fjeldstad, O.D., 1998. Configuring value for competitive advantage: on chains, shops, and networks. *Strategic Management Journal* 19, 413-437.
- Stake, R.E., 1995. *The art of case study research*. Sage Publications, Thousand Oaks, California.
- Stubbs, W., Cocklin, C., 2008. Conceptualizing a "Sustainability Business Model". *Organization and Environment* 21, 103-127.
- Teece, D.J., 2010. Business models, business strategy and innovation. *Long Range Planning* 43, 172-194.
- Thompson, J.D., MacMillan, I.C., 2010. Business models: creating new markets and societal wealth. *Long Range Planning* 43, 291-307.
- Tukker, A., 2004. Eight types of product-service system: eight ways to sustainability? Experiences from Suspronet. *Business Strategy and the Environment* 13, 246-260.
- Upward, A., Jones, P., 2016. An ontology for strongly sustainable business models: defining an enterprise framework compatible with natural and social science. *Organization & Environment* 29, 97-123.
- Wells, P., 2013. Sustainable business models and the automotive industry: a commentary *IIMB Management Review* 25, 228-239.

- Wells, P., Seitz, M., 2005. Business models and closed-loop supply chains: a typology. *Supply Chain Management: an International Journal* 10, 249-251.
- Yang, M., Evans, S., Vladimirova, D., Rana, P., 2017. Value uncaptured perspective for sustainable business model innovation. *Journal of Cleaner Production* 140, 1794-1804.
- Yin, R.K., 2014. *Case study research: design and methods*, 5 ed. Sage Publications, Los Angeles.
- Yunus, M., Moingeon, B., Lehmann-Ortega, L., 2010. Building social business models: lessons from the Grameen experience. *Long Range Planning* 43, 308-325.
- Zott, C., Amit, R., 2010. Business Model Design: an Activity System Perspective. *Long Range Planning* 43, 216-226.