Business Model of Colombian entrepreneurships operating in the Base of Pyramid (BoP)

ABSTRACT

To characterize the business model of entrepreneurships operating in the BoP, based on an extensive literature review, we propose a 13-factor structure model. After a reduction by factor analysis a 9-factor structure model is hypothesized: relationship and consumer knowledge, organizational dynamic, value, growth and flexibility, business knowledge, contingencies and financial resources, innovation and strategic alliances, differentiated value proposal, employment and integration with the community, and resources and information are the relevant factors. After estimate the CFA, only 5 factors are significant to explain the organizational performance of an entrepreneur from the BoP, the most important are (a) organizational dynamic, (b) resources and information, and (c) relationship and consumer knowledge. Finally, some practical and policy implications are developed.

Key words: Entrepreneurship, BoP, Business Model

Track: Entrepreneurship and Regional Economic Development

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INTRODUCTION

The sector of the base of the pyramid (BoP) or low incomes consumers constitute a high percentage of the population in Latin America, specifically the largest percentage on each country, and yet has been little researched on their business initiatives and business models. In this regard, through this research we want to understand more deeply the business dynamics in the market of the base of the pyramid, through the business model of entrepreneurship. In this way, we can develop policies that encourage both public and business on the base of the pyramid, and private initiatives that promote the generation of such inclusive businesses that generate economic and social wealth.

Prahalad incorporated the concept of the BoP in management sciences, with approaches ranging from the development of products for this market segment to their integration into the value chains of business, such as inclusive business. Two perspectives are identified: (1) Consider them as active consumers with purchasing power, but whose partial purchases are less than those of other sectors; (2) Receive and incorporate the BoP to the value chain of the organization (inclusive business). This vision integrates economic value of this market and the social impact of these sectors for the development of initiatives, considering them not only as consumers but as entrepreneurs.

This research is part of the second approach, that is, where low-income consumers play a key role in running the business without support from any initial organization, and beyond the entrepreneur BoP considers necessary for the development of its business, as may be the case of a financial institution. The overall objective of this paper is to analyze the business model of Colombian enterprises operating in the base of the pyramid (BoP), that are located in popular sectors and whose target segment are low-income consumers. The specific objectives can be indicated as follows: i) Define the relevant dimensions or components of the business model of entrepreneurships operating in the BoP; ii) Determine the degree of consolidation of each of these components in the case of popular initiatives studied, and iii) Assess the impact of these components on business performance.

CONCEPTUAL FRAMEWORK

The business model definitions

In the academic literature abound definitions of business model. Since the mid-1990s, catalyzed by the boom in internet ventures (Zott et al., 2011), until recent times it has been proposed a variety of configurations of foundational elements and activities known collectively as a business model, which serve like a holistic approach to describe a firm's value-creating and value-capturing activities (Osterwalder et al, 2005) These frameworks also attempt to contain non-overlapping but collectively exhaustive components of a firm's logic to create and capture value. In so doing, they implicitly reinforce the contention that the business model is a discrete unit of analysis (Ladd, 2014).

According to Magretta (2002:3), "A good business model remains essential to every successful organization, whether it's a new venture or an established player. They are stories that explain how enterprises work. Moreover, a good business model answers Peter Ducker's age-old questions: Who is the customer? And what does the customer value? It also answers the fundamental questions every manager must ask: How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?"

Table 1 shows a set of definitions of business model that have been raised by various authors over more than a decade. As shown, most of these definitions focus on value creation; being considered that a business model describes the core logic for creating and capturing value (Chesbrough, Rosenbloom, 2002; Morris et al., 2005; Osterwalder et al., 2005; Zott, Amit, 2010).

The value is the central objective of a business model, which implies that there is a close relationship between the capabilities of the firm and its business model, because precisely these skills allow companies to create and capture the "value ". The combination of a firm's resources and capabilities may lead to value creation (Amit, Zott, 2001).

A business model fulfills the following functions (Chesbrough, 2010):

a) Articulates the value proposition;
b) Identifies a market segment and specifies the revenue generation mechanism;
c) Defines the structure of the value chain required to create and distribute the offering and complementary assets needed to support position in the chain;
d) Details the revenue mechanism(s) by which the firm will be paid for the offering;
e) Estimates the cost structure and profit potential;
f) Describes the position of the firm within the value network linking suppliers and customers, and
g) Formulates the competitive strategy by which the innovating firm will gain and hold advantage over rivals.

INSERT TABLE 1

Several researchers have extended the business model definition by incorporating cross-sector collaborations in concept, arguing that business model can be seen as a generator of social value, and that social and economic value creation

can be mutually reinforcing. In that sense, the business model is defined as a system of interdependent activities that transcends the local firm and spans its boundaries (Amit and Zoit, 2009; Dahan et al., 2009; Zott et al., 2011).

Conceptual building blocks and dynamism of business model

Although the business model is now recognized as a specific valid unit of analysis (Zott et al., 2011), in the literature do not exist a generally accepted definition, including the number and nature of business model components or "building blocks" (Shafer et al, 2005). On the other hand, there is a debate on the question whether business model should be regarded static or dynamic (Demil, Lecocq, 2010; Sinkovics et al., 2014) So, currently, there is a virtual consensus that to remain competitive and sustain future growth firms must continuously develop and adapt their business models (Sosna et al., 2010; Teece, 2010; Amit, Zott, 2012, 2013).

The prolonged debate on the components of a business model helped to focus the attention on the core processes that deserve most of the attention (Cavalcante et al., 2011). For Hamel (2000), a business concept compromises four major components: core strategy, strategic resources, customer interface and value network, while Shafer et al. (2005) identify four major business model components, reflecting the underlying patterns, i.e. strategic choices, creating value, capturing value, and the value network. Johnson et al. (2008) propose that business models consist of four interlocking elements, which, taken together, create and deliver value: customer value proposition, profit formula, key resources, and key processes.

For its part, Osterwalder (2004) defined the relationships between individual business model components, in an attempt to approach the concept from a holistic perspective in a systematic way and as an in-depth business analysis tool (Sinkovics, et al., 2014) The business model canvas proposed for Osterwalder and Pigneur (2010) has nine components or building blocks: key resources, key activities, key partners, value proposition, customer relationships, customer segments, cost structure, revenue streams, and channels. The Table 2 shows a set of components that have been raised by these and others authors in the business model literature.

INSERT TABLE 2

On the other hand, it has been indicated that most of the proposed business models are static in nature and, unlike business strategy, do not incorporate contingencies for alternative paths of market evolution, nor capture changes in strategy or contemplate the evolution of the model (Baden-Fuller, Morgan, 2010; Ladd, 2014; Sinkovics et al., 2014). The business model has to be managed and developed over time (Hedman, Kalling, 2003). Several authors have made proposals in this regard; for example, Sinkovics et al. (2014) have added two more dimensions to Osterwalder and Pigneur's (2010) business

model canvas, these are: change in offering and change in strategy. These authors highlight that business models should be regarded as dynamic but acknowledge that capturing this dynamism is a difficult task to achieve; in this sense, they propose that a possible way to capture the dynamism is to focus on the relevant constraints that triggered some kind of change in the firm's business model, stating that the viability of the business model of a firm would be expected to be a function of how it responds to the constraints it is confronted with.

In the same direction, Demil and Lecocq (2010) also propose the use of this concept from a transformational approach, labeling the capability that allows a firm to change its business model while at the same time, building and maintaining a sustainable performance as dynamic consistency. As a consequence of the dynamism assumption, a business model analysis is not only required to map the current business model, it also needs to capture the changes that occurred over time, and the reasons for those changes (Sinkovics et al., 2014).

Business Models at the Base of the Pyramid

Kolk, Rivera-Santos & Rufín (2014) highlight that research on the BoP has mainly focused on consumers. These authors show different roles that BoP individuals can play in the value chain, such as: consumers, who are receivers of existing products, consumers as co-inventors, employees or entrepreneurs. These entrepreneurs are involved in initiatives that involve few or no specialized skills, very low barriers to entry, and limited or no scalable business models.

According to Ladd (2014), none of the existing theories of business models explain or propel firms serving BoP markets, which are characterized by pre-existing demand for solutions to basic needs, yet with no competition or infrastructure, considering that ventures in the BoP thus require a new framework of business models. Furthermore, London and Hart (2010) suggest that the best way to create mutual value when entering BoP markets is to first achieve a deep understanding of the constraints BoP consumers, producers, and entrepreneurs face.

Klein (2008) argued that a business model is a reflection of the way a business deals with its existing and prospective business challenges and introduced the concept of sustainability at BoP, which has to do with the way a business deals with business challenges developing a profitable pro-poor business model. The strategic business model represents the core logic of how a unit conducts business so that it can sustain itself, namely, how a unit creates value, appropriates value and ensures its future viability; thereby explaining how it, in interaction with its environment, positions itself within the fitness landscape. For Sinkovics et al. (2014) , in order to gain a better insight into how business models can build social value for or with the BoP it must be inquired how social value creation actually takes place for and by the BoP and BoP communities.

Proposed Business Models at the Base of the Pyramid

Considering the literature reviewed, we propone a business model compound by thirteen factors. For each of them and based on its definition we developed different items to measure each factor (Table 3). In the same way, we look for a measure of organizational performance, and based on Quinn & Rohrbaugh (1983) and Jiménez-Jiménez & Sanz-Valle (2011), we consider a scale that includes three dimensions of organizational performance: open system (quality product, internal process coordination, and company and products' image), rational goals (market share, profitability, productivity customer satisfaction) and human resources (turnover and absenteeism). We consider thirteen items (Table 4).

INSERT TABLE 3

INSERT TABLE 4

METHODOLOGY

Survey method and procedure

Based on the model proposed, we designed a survey in order to measure the constructs, and to collect demographic, social and general data about the conditions of each respondent. In order to measure the business model several question were designed, considering the dimensionality of each construct (Table 3). Also some questions were developed for each item to measure the organizational performance (Table 4). During the pilot tests (20 surveys) we detected a number of problems with the scale and the questions, so the survey was edited a few times, especially to adapt the language to people with low education.

For an individual to be a potential respondent, he/she must meet the requirements of: i) Being the owner or manager of a MSMEs (micro, small, and medium enterprise), ii) The age of the company is greater than or equal to two years, iii) Have had or having at least a microcredit bank, and iv) Having at least one permanent employee (other than family). Knowing the difficulty of finding individuals who met the necessary requirements and who agreed to answer the survey, two strategies were followed in order to collect the data: i) Contacting banks, which disposed some of its commercial agents to locate some of its customers that met our requirements, and ii) Visiting businesses in neighborhoods directly.

In this regard, banks were selected based on the market share and contacted to obtain a representative sample of entrepreneurs. The banks that supported us during the sampling were: Banco Agrario, Banco WWB and Bancolombia; which correspond to recognized entities that have had an important participation in the total gross portfolio of microcredits

and financial services in Colombia[1]. In this way, we were able to complete 296 representative surveys: 80 from Banco Agrario, 43 from Banco WWB, 85 from Bancolombia and 87 from entrepreneurs in the neighborhoods. Table 5 presents the location where the survey was conducted.

INSERT TABLE 5

Method

We use Structural Equation Modelling (SEM) as our statistical methodology, which under a confirmatory approach (hypothesis-testing), analyzes a structural theory that faces a phenomenon (Byrne, 2010). SEM enables researchers to simultaneously examine a set of interrelated dependence relationships between constructs (latent variables), represented by multiple variables (e.g. scales). Following this methodology, the hypothesis that the performance of companies created at the BoP is explained by a series of factors itemized in previous sections.

Data screening

In order to ensure the desirable properties of the SEM estimators, a series of assumptions have to be guaranteed. Model should be free of multicollinearity, free of data problems (e.g. outliers and missing data) and finally data should fulfill the normal distributional assumption. As shown in previous section, the survey developed was applied to a total of 315 entrepreneurs, leaving as result 296 feasible surveys. While researchers agree that large sample size are required to provide sufficient statistical power and precise estimates using SEM, there is no general consensus on the appropriate method for determining adequate sample size. Some authors (e.g. Kline, 2005) consider that an adequate sample must have between 10 and 20 participants per estimated parameter. On the other hand, other groups of authors (MacCallum, Browne & Sugarawa, 1996) suggest that sample size depends on the desired statistical power, and the complexity of the model. Jackson (2001) consider a minimum recommended sample size of 200 subjects for any SEM. Wolf et al. (2013) revealed meaningful patterns of association between parameters and sample size. Considering the above, the collected sample is representative and is over the minimum recommended for the methodology to be applied. According to White & MacDonald (1980), by calling the Central limit theorem, *normality* arises consistently for large samples, thus SEM seems to be a feasible methodology for this case.

Multicollinearity arises when variables tend to express almost the same information, that is, there exist a high correlation between them. Under multicollinearity, estimates are unbiased, but assessments of the relative strength of the

1 Acording to the CEPAL (2009) in its report "Microfinanzas e instituciones microfinancieras en Colombia", banks represent over the 80% of the market share of the microcredit market in Colombia. Of the total granted microcredit in Colombia, 51% is done through Banks trade, with a strong concentration in four of them (Banco Agrario, BCSC, Bogotá and Bancolombia); five foundations related Women's World Banking, involved approximately 35% ofmicrocredit granted.

explanatory variables and their joint effects are unreliable (inefficient) (Dattalo, 2013; Greene, 2011). When analyzing the spearman correlations between the observed variables, there is no evidence or sign of several correlations (ρ>0,8) between covariates.

Given the nature of the likert scale, *outliers* in the measurement items were not removed. On the other hand, when analyzing the outliers in the control variables of age, business age, number of partners and number of employees, we decided that it does not represent an issue because our study is not restricted to certain business ages in the life cycle, ages of people or number of employees or partners. Many of the respondents did not answer to some questions, so *missing values* were imputed applying the Expectation Maximization method, but we care about the response rate, so we deleted the surveys with a higher non-response rate than 10%.

Exploratory Factor Analysis (EFA)

For developing this methodology, it is essential to do a vast literature review bearing on the phenomenon studied, which is the guide during the procedure. Since, there is no exact theory for the proposed objective of this document, it is necessary to develop a scale for identifying the factors. With the factor analysis, it could be investigated the relations between sets of observed and latent variables by examining the covariation among a set of observed variables in order to gather information on their underlying latent constructs (i.e. factors) (Hair, 1999).

As a first step, an exploratory factor analysis is designed to determine how and to what extent, the observed items measured with the survey are linked and grouped to the unknown or uncertain construct. Following Bollen (1989), scales with more than one factor can be identified with only two items by factor, although these should be viewed as an exception. The usual case is that a minimum of three items loaded significantly on each factor on a multidimensional scale for all subscales is correctly identified (Little, Lindenberger & Nesselroade, 1999; Velicer & Fava, 1998). In this regard, the EFA consists in an iterative process of factorial analysis, which would reduce the number of factors by coercion, until they come to a factorial structure that there is at least 3 items in each factor. Finally, for each factor, the item loadings were analyze to let just items that really explain much of the factor variance, taking care not to delete any important item that theoretically explains the construct. In parallel, the reliability of the scale was analyzed, and using a sensitivity analysis of the impact of the reliability to a removal of any of the items of the construct, a factorial structure could be built with the highest possible reliability.

Validity and Model Fitting process

Once obtained a plausible factorial structure, the hypothesized model is stated as presented in figure 1. The issue of identification arises in this step, and it focuses on whether or not there is a unique set of parameters consistent with the data;

that is, if there is at least one algebraic expression that expresses each parameter to be estimated, as a function of the sample variance and covariance (Cupani, 2012). In calculating the degrees of freedom of the model, we sum the number of parameters to be estimated. In our model, we have a total of 159 unknown parameters. Also, we have 57 observed variables, that is 57(57+1)/2= 1653 data points. Thus, with 1653 data points and 159 unknown parameters to be estimated, we have an over identified model with 1494 degrees of freedom, and as a consequence, the parameters are considered to be estimable and the model therefore testable (Byrne, 2010).

INSERT FIGURE 1

An important step before making any attempt to evaluate the structural model is testing the validity of the measurement model, which could be reached by analyzing the standardized estimates of the CFA. Model fit indices are reviewed in order to determine the goodness-of-fit between the hypothesized model and the sample data. If it is found to be any misfit in the proposed model, an iterative process of model fitting is conducted by examining the standardized residual covariance and modification indices; in order to evaluate the possibility of deleting the items that produce the misfit and covariate the errors when needed.

SEM estimation (CFA)

After the construct measures have been confirmed as reliable and valid, and reaching the best model fit possible, the computation of the path coefficients linking the constructs in the SEM are estimated. Standardized estimates are presented in figure 2 along with the estimate significance in the hypothesized model.

RESULTS

Table 6 describes the demographic data of the collected sample. In the case of continuous variables it presents their averages and standard deviation, and in the case of discrete/categorical variables it shows the frequency and proportion of the different values. From this table it can be highlighted a balanced participation of men and women in the survey; among others, the average respondent is frequently married, with an economic weight of two or less people, and an education level of complete high school. On the other hand, table 7 presents the median, mode, standard deviation and the frequency of answers for the measurements items. From this table it is remarkable the concentration to higher grades on the scale (agreement) of the measurement items.

INSERT TABLE 6

INSERT TABLE 7

Table 8 presents the resulting factorial structure with the respective cronbach alpha for each factor and the same coefficient if any of the items are removed, and the construct where originally each item belonged. Note that in some cases removing some factor can increase the reliability, but this happens in the factors that has 3 items; since factors cannot have less than 3 items, in the measurement.

INSERT TABLE 8

After the exploratory factor analysis, and based on the theoretical background collected from various authors, the proposed model for assessing the impact of the components on the business performance of the business initiatives operating in the BoP (after the validity and model fitting procedure) is presented in figure 1, where although not shown, covariance between latent variables is allowed. Goodness-of-fit assessment for the resulting model is presented in table 9. According to this set of indices the model reports a regular/moderate fit to the data following the recommended cutoff.

INSERT TABLE 9

The SEM estimation is reported in figure 2 as a path diagram. Structural coefficients, as measurement coefficients, and its respective significance hypothesis test is presented in asterisk notation. Measurement coefficients are reported just for the significant factors in order to simplify the graphic.

INSERT FIGURE 2

Based on the results of the SEM estimation, with a significance level of 10% the coefficients of i) Value, Growth and Flexibility, ii) Relationship and Consumer Knowledge, iii) Organizational Dynamic, iv) Resources and Information, and v) Employment and Integration with the Community are significantly nonzero. All measurement coefficients are statistically significant including unreported ones.

CONCLUSIONS AND RECOMENDATIONS

As it has been recognized by Zott et al. (2001) the business model is emerging as a new unit of analysis, which emphasizes a system-level, holistic approach to explain how firms "do business". Nevertheless, according to Ladd (2014), none of the existing theories of business models explain or propel firms serving BoP markets, considering that ventures in the BoP thus require a new framework of business models.

The business model obtained in this empirical research to explain how the business initiatives operating in the BoP “do business” is shaped by five components: i) Value, growth and flexibility, incorporating elements in the supply or the business value proposition, its growth plans and their ability to adapt to what the market requires; ii) Relationship and consumer knowledge, that is all the concerns about knowing the customer and building relationships with him to give to

know the product and provide access to it; iii) Organizational dynamic: internal environment of the organization, concerns about motivation, training and empowerment of human capital in the firm; iv) Resources and information: resources and management skills to the business operation, and v) employment and integration with the community.

This last component is particularly interesting for the purposes of this investigation, as evidence that the process of social value creation is a distinctive element of the business models in the BoP, given the constraints the BoP entrepreneurs and BoP communities face, as it has been pointed out by Sinkovics et al. (2014) among others, who say that the social value creation and business models may be interrelated in the context of the bottom of the pyramid (BOP) business formation. This characteristic of business model of base of pyramid would be encouraged and supported by ONG´s and government, through different policies, that allow create chains of value through the organization of the entrepreneurs of the community to maximize his/hers capabilities. The goal is the optimizing of the operation and the minimizing of costs, to deliver a more valuable offer to the market.

At the same time, it is considered of interest to highlight those components were not significant to explain the performance of business initiatives operating in the BoP, as they are: business knowledge, relative to competitors, business costs and margins; contingencies and financial resources; differentiated value proposal, and innovation and strategic alliances, suggesting that innovation and differentiation are not core components of the business models of the BoP. It could be disturbing, because could be mean that the Bop consumer wouldn't receive the most innovative offer and instead they have to accept less valuable offers. In this sense, the government could create policies that support the entrepreneurs of Bop in innovation activities, for example through training in innovation and implementation of innovation projects, also with loans under special conditions to investing in business innovation, etc.

From the results, it can be said that the business model in the BoP have its peculiarities, emphasizing employee empowerment and community relationships ("ecosystem"). Furthermore, the model proved is dynamic as it incorporates the change through growth expectations and the flexibility to adapt supply to the requirements of customers, competitive dimension key in small businesses given their small scale.

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Table1. Some business model definitions

Author(s)	Definition
Timmers (1998)	Architecture for products, services and information flows, including a description of various business actors and their roles.
Wirtz (2000)	A business model reveals the combination of production factors which should be used to implement the corporate strategy and the functions of the actors involved.
Linder, Cantrell (2000)	Operating business models are the real things. An operating business model is the organization's core logic for creating **value.**
Amit, Zott (2001)	The business model depicts the content, structure, and governance of transactions designed so as to create **value** through the exploitation of business opportunities.
Chesbrough, Rosenbloom (2002)	The business model is the heuristic logic that connects technical potential with the realization of economic **value.**
Morris et al. (2005)	A concise representation of how a set of interrelated decision variables are addressed to create sustainable competitive advantage in defined markets.
Rajala, Westerlund (2007)	The ways of creating **value** for customers and the way business turns market opportunities into profit through sets of actors, activities and collaborations.
Shafer et al. (2005)	Representation of a firm's underlying core logic and strategic choices for creating and capturing value within a **value** network.
Johnson et al. (2008)	Business models consist of four interlocking elements, which, taken together, create and deliver **value.** These are: customer value proposition, profit formula, key resources, and key processes.
Casadeus-Mansell, Ricart (2009)	Business model is a reflection of the firm's realized strategy.
Osterwalder, Pigneur (2010)	A Business Model describes the rationale of how an organization creates, distributes and captures **value** for a market segment.
Casadesus-Masanell, Ricart (2010)	Business Model refers to the logic of the firm, the way it operates and how it creates **value** for its stakeholders.
Teece (2010)	A business model defines how the enterprise creates and delivers **value** to customers, and then converts payments received to profits
Zott et al. (2011)	Autonomous unit of analysis that specifies the logic with which a firm creates and then captures **value**. It is comprised of multiple interdependent items to form a holistic system that influences the performance of the firm.

Table 2. Components or conceptual building blocks of business model

Author (year)	Components
Timmers (1998)	Virtual community. Value chain service provider. Value chain integrator. Collaboration platforms. Information brokers
Wirtz (2000)	Capital model. Procurement model. Manufacturing model. Market offer model. Service offer model. Distribution model.
Hamel (2000)	Core strategy: business mission; product/market scope; basis for differentiation. Strategic resources: core competencies; strategic assets; core processes. Customer interface: fulfillment and support; information and insight; relationship dynamics; pricing structure. Value network: suppliers; partners; coalitions.
Chesbrough and Rosenbloom (2000)	Value proposition. Market segment (customer information). Structure of the value chain within the firm. Cost structure. Profit structure. Value network. Competitive strategy
Linder and Cantrell (2000)	What is our distinctive value proposition? Who are our customers and what are their needs? How do we get and keep customers? What do we offer them? How do we price? How do we deliver distinctively? How do we execute? What are our distinctive capabilities? How is our financial structure distinctive? Distinctive Revenue Implications. Distinctive Cost Implications. Distinctive Asset Implications. Returns.
Hedman and Kalling (2003)	Customers. Competitors. Offering. Activities and organization. Resources. Supply of factor and production inputs. Longitudinal process components.
Pateli and Giaglis (2004)	Mission. Target market. Value proposition. Resources. Key activities. Cost and revenue model. Value chain-network. Market trends. Regulation. Technology
Chesbrough (2005)	Value proposition. Market segment. Value chain. Cost structure and target margins Value network. Competitive strategy
Shafer et al. (2005)	Strategic choices, creating value, capturing value, and the value network
Tikkanen et al. (2005)	Strategy and structure: a company's strategic intent, strategy process, and the content of strategy. Network: A company's network of relationships. Operations: A company's process architecture; resource, capability and competence base; and product and service offerings. Finance and Accounting: A company's capital budgeting and financial reporting, Belief system: cognitive aspects, i.e. the systemic meaning structures or the belief system of a company. Business model evolution.
Johnson et al. (2008)	Customer value proposition. Profit formula. Key resources. Key processes.
Klein (2008)	Resources. Tasks. Value drivers. Capabilities. Business Processes. Value propositions Competences. Renewal processes. Strategic intent to change.
Osterwalder and Pigneur (2010)	Key resources. Key activities. Key partners. Value proposition. Customer relationships. Customer segments. Cost structure. Revenue streams. Channels.

Table 3. Components of the BoP´s Business Model (independent variables)

Component	Definition	Dimensions
1. Value Proposition	The value proposition describes the benefits and therefore the value a customer or a value partner gains from the business model.	• Benefits that the customer perceived from the offer. • Nature of the mixture of products / services. • Distinctive value proposition. • Positioning/Branding. • The affordability of the offer (price)
2. Customer	Customer knowledge and using this information to generate profitable relationships.	• Profile of customers and specifications of their needs. • Segmentation strategy. • Development of the relationship with customers.
3. Channels and selling model	The manner in which products and services are distributed and delivery to the customer.	• Way in which the offer is available to consumers. • Channel levels and property. • Selling approach.
4. Strategy	The way which the innovating firm will gain and hold advantage over rivals.	• Competitive advantages in terms of: operation; product; innovation; cost, and customer relationships.
5. Business environment	The description of firm´s environment, including the broader (economic, social and political) institutional context, competitors, customers, consumers, suppliers and – partners.	• Search and analysis of information from the environment (opportunities and threats) • Knowledge of competitors (strengths and weaknesses) and use of this information.
6. Organizational structure	Anatomy of the organization, providing a foundation within which the organization functions. Structure has two basic functions: affect individual behavior and organizational performance.	• Internal organization • Attraction and retention of personnel • Coordination mechanisms.
7. Value Chain	The activities and process required to create and distribute the offering, and to determine the complementary assets needed to support the firm's position in this chain.	• Activities and process to production / service delivery. • Process standardization and quality measurement.
8. Value Network	Describe the position of the firm within the value network linking suppliers and customers, including identification of potential complementors and competitors	• Relationship with suppliers. • Identification of potential partners.
9. Resources and Capabilities	Resources are the tangible and intangible assets available and useful in detecting and responding to market opportunities or threats. Capabilities are thus a unit's ability to exploit its resources.	• Identification of resources that the firm has to develop the offer • Business skill. • The way to use the resources to develop the competitive offer.
10. Revenue Model	Estimate the cost structure and profit potential of producing the offering, given the value proposition and value chain structure chosen	• How the firm finance the investment. • How the firm get their incomes. • The cost structure and profit potential. • Sales volumes / margin.
11. Information and Knowledge (knowledge management system)	Organizational asset that enables sustainable competitive advantage in hyper-competitive environments	• How the company uses its experience to learn and improve. • The use of information for decision-making and the formulation of strategies.
12. Dynamic and Sustainability	To be sustainable, a competence must respond to the dynamics of the external environment by enabling an organization to maintain its ability to create value in the marketplace even as changes take place in the market preferences	• How the company facing to changing environmental factors. • Expectations and ambitions for business growth. • Scalability.
13. Sustainability at BoP	The way a business deals with business challenges developing a profitable pro-poor business model	• Educate consumers. • Improve living conditions (social value creation) • Partnered with organizations at the Bop. • Trust / the strength with community. • Co-developments of solutions. • Skills within the community. • Local conditions/limitations.

		• Ecosystem creation (inclusive participation of the community) • The social and environment responsibility through the value chain.

Table 4. Organizational Performance (Dependent variable)

Quality of products / services
Coordination of internal processes
Image of the organization and its products
Ability to adapt to market needs
Market Share
Earnings
Employee productivity
Customer satisfaction
Staff turnover
Absenteeism
Employee motivation
Sales of the company
Percentage of sales corresponding to new products or services launched

Table 5. Locations of the conducted surveys

Department	City/Munincipality	Strategy	Number of surveys
Valle del Cauca	Cali	Neighborhood	87
		Banco WWB	43
		Bancolombia	85
	Palmira	Banco Agrario	10
	Florida		8
	El Cerrito		8
	Pradera		8
	Candelaria		10
	Buga		16
Cauca	Puerto Tejada		10
	Santander de Quilichao		10

Table 6: Sample Demographics

item		Agerage/ Frecuency	Est. Dev./ Proportion
Business Age		10,03	7,06
Owner Age		44,04	11,5
Number of Credits		2,35	1,13
Number of employees		2,59	2,27
Number of Partners		0,28	0,85
Gender	Man	153	52,6%
	Woman	138	47,4%
Marital Status	Single	52	17,9%
	Married	112	38,5%
	Divorced	27	9,3%
	Widow	7	2,4%
	Free Union	93	32,0%
Economic weight	Up to two	233	78,7%
	More than two	63	21,3%
Education level	Incomplete Elementary School	19	6,4%
	Complete Elementary School	26	8,8%
	Incomplete High School	48	16,3%
	Complete High School	91	30,8%
	IncompleteTechnical Carreer	12	4,1%
	Complete Technical Carreer	66	22,4%
	Incomplete Undergraduate	12	4,1%
	Complete Undergraduate	19	6,4%
	Postgraduate	2	0,7%

Table 7: Frequency of answers of the measurement variables

Construct	Item	Median	Mode	Std. Dev.	Frecuency			
					NS/ NR	Disagree	Indifferent	Agree
Relationship and Consumer Knowlege (CR)	I do recommendations to my costumers regarding the uses or benefits of my products / services that are unknown to them	5	5	1,029	2	16	26	252
	I care to know what my customer wants and adapt my product / service to your needs	5	5	0,901	0	1	20	269
	My business enjoys the confidence of my community	5	5	0,83	3	6	14	269
	My clients believe that my product / service is cheap or that I offer good payment terms (give them credit)	4	5	1,066	4	15	36	241
	I recognize that not all of my clients want the same	5	5	1,169	2	27	24	243
Organizational Dynalmic (OD)	The daily information flows easily between all employees and bosses	5	5	1,124	10	6	34	246
	My employees have all the knowledge and skills to do their jobs	5	5	1,135	0	6	30	249
	I know oversee and coordinate the activities of the employees of my business	5	5	1,048	8	6	23	259
	I'm always aware of my employees beeing satisfied at work	5	5	1,179	0	7	31	246
	In my company, every employee does his job without coordination	4	5	1,424	13	50	68	165
Value, Growth and Flexibility (VG)	The environment of my community seriously restricts my business	1	1	1,397	7	199	29	61
	I offer a variety of products / services	5	5	1,347	3	48	32	213
	My clients believe that it is easy to come to my business and that it´s closed to them	5	5	1,1	4	19	21	252
	I am making plans to grow my business	5	5	0,883	1	13	17	265
	I could easily get the financial resources to grow my business	4	5	1,396	7	52	60	177
	I can adapt what I produce according to what the market asks me	5	5	1,063	5	13	32	246
Business Knowlege (BK)	I know very well the strengths and advantages of my competitors	4	5	1,327	4	48	60	184
	I use information from what happens around me to make decisions about my business	4	5	1,209	0	38	37	221
	I have very clear how much is the profit margin my business	5	5	1,069	5	18	20	253
	I frequently review the invoices and receipts for purchases, sales, and expenses of my business to see how I can improve it	5	5	1,031	2	19	43	232
	I have a good estimation of the costs and expenses of my company	5	5	1,035	6	10	31	249
	I maintain stable relationships with my suppliers	5	5	0,908	5	6	11	274
	My product / service has a name / brand that customers recognize	5	5	1,368	2	46	31	217
	My business schedules make life easier for customers	5	5	0,887	0	1	18	271
	I am very aware of knowing how things around me could impact my business	5	5	1,037	3	12	37	244
Contingencies and Financial Resources (C)	I am well prepared to overcome the difficulties that the environment will impose my business.	4	5	1,151	6	22	54	214
	I am well prepared to seize the opportunities that the environment offers to my business.	5	5	1,271	14	11	22	249
	I can easily count the financial resources I need for business operation	4	5	1,062	0	23	61	212
Innovation and Strategic Alliances (IS)	I hope to hire more than 10 employees in the next five years (whether in this place, in a bigger place, or having other branches of business to be the case).	3	5	1,619	8	97	44	147

	I think my product / service is very innovative in relation to what my competitors and other community businesses offer	3	5	1,449	4	84	70	138
	I'm always care of who to partner (suppliers, other business, family, other people, etc.) to add value to my business	4	5	1,533	2	87	40	167
	I have partnerships that have generated to my business advantages compared to my competitors	3	1	1,626	0	120	47	129
	I have found products / services from other businesses that complement my offer and we have partnered.	2	1	1,564	4	157	36	99
Differentiated Value Proposal (DVP)	When developing products / services, I seek for cooperation from my customers	4	5	1,491	4	69	47	176
	I think my products / services are different from those of competitors	4	5	1,442	5	54	48	189
	Consumer thinks what I offer is much better than what my competitors offer	4	5	0,982	4	6	49	236
	Often I look at what my competitors do to make decisions about my business	3	5	1,663	4	105	46	141
Employment and Integration with the Community (CE)	When I look for new employees, I find trained people in my community	4	5	1,712	40	58	45	153
	The operation of my business involves people from the community, either I give work to people in the neighborhood or because I buy inputs to community suppliers	4	5	1,417	4	65	49	178
	I count on dedicated employees for selling what I offer	4	5	1,428	7	48	55	178
Resources and Information (RI)	I saved all invoices and receipts of the business for the last 2 years on the basis of purchases, sales, equipment repair etc.	5	5	1,348	6	36	23	231
	All equipment (e.g. Cash registers, computers) that are in my company are modern	4	5	1,394	2	61	51	179
	In my company we have all the equipment (e.g. Computers, cash registers) needed to carry out our production, service delivery or sale.	4	5	1,309	7	38	47	204
	As director of business I have all the knowledge and skills to run the business	5	5	0,899	1	14	19	261
Performance (Dependet Variable)	Quality of the Products/Services	5	5	0,83	1	4	36	251
	The image of the organization and its products	5	5	0,992	0	3	19	265
	The ability to adapt to customer needs	5	5	1,063	0	4	36	246
	The consumer Satisfaction	5	5	0,961	7	2	20	266
	The earning	4	4	0,997	6	11	58	220
	Number of customers served	4	5	1,078	9	7	41	238
	Number of sold products	4	5	1,068	0	11	32	244
	The ability to borrow money for your business, if needed	4	5	1,107	5	18	48	224
	The possibility of getting supplies and important raw materials for business	5	5	0,971	5	7	29	254
	The possibility of hiring skilled human resources	4	4	1,358	21	15	66	193
	Coordination of internal processes	4	5	1,02	7	4	42	238
	The employess productivity	4	5	1,254	15	10	51	219
	The motivarion of employees	4	5	1,157	12	5	33	245

Table 8: Resulting factor structure from EFA

Original Construct	Item/Question	Resulting Factor	Cronbach alpha	Cronbach alpha if
Sustainability at BoP	I do recommendations to my costumers regarding the uses or benefits of my products / services that are unknown to them	Relationship and Consumer Knowlege (CR)	0,721	0,668
Customer	I care to know what my customer wants and adapt my product / service to your needs			0,663

Sustainability at BoP	My business enjoys the confidence of my community			0,654
Value Proposition	My clients believe that my product / service is cheap or that I offer good payment terms (give them credit)			0,689
Customer	I recognize that not all of my clients want the same			0,697
Information and Knowledge	The daily information flows easily between all employees and bosses	Organizational Dynamic (OD)	0,815	0,766
Resources and Capabilities	My employees have all the knowledge and skills to do their jobs			0,762
Organizational Structure	I know oversee and coordinate the activities of the employees of my business			0,782
Organizational Structure	I'm always aware of my employees beeing satisfied at work			0,763
Organizational Structure	In my company, every employee does his job without coordination			0,822
Sustainability at BoP	The environment of my community seriously restricts my business	Value, Growth and Flexibility (VG)	0,637	0,541
Value Proposition	I offer a variety of products / services			0,569
Channels and Selling Model	My clients believe that it is easy to come to my business and that it´s closed to them			0,588
Strategy	I am making plans to grow my business			0,633
Revenue Model	I could easily get the financial resources to grow my business			0,608
Value Chain	I can adapt what I produce according to what the market asks me			0,611
Business environment	I know very well the strengths and advantages of my competitors	Business Knowlege (BK)	0,7301	0,7214
Business environment	I use information from what happens around me to make decisions about my business			0,7048
Revenue Model	I have very clear how much is the profit margin my business			0,681
Information and Knowledge	I frequently review the invoices and receipts for purchases, sales, and expenses of my business to see how I can improve			0,6981
Revenue Model	I have a good estimation of the costs and expenses of my company			0,6874
Value Network	I maintain stable relationships with my suppliers			0,7017
Value Proposition	My product / service has a name / brand that customers recognize			0,7341
Channels and Selling Model	My business schedules make life easier for customers			0,7181
Business environment	I am very aware of knowing how things around me could impact my business			0,7073
Dynamic and Sustainability	I am well prepared to overcome the difficulties that the environment will impose my business.	Contingencies and Financial Resources (C)	0,658	0,405
Dynamic and Sustainability	I am well prepared to seize the opportunities that the environment offers to my business.			0,519
Resources and Capabilities	I can easily count the financial resources I need for business operation			0,712
Dynamic and Sustainability	I hope to hire more than 10 employees in the next five years (whether in this place, in a bigger place, or having other	Innovation and Strategic Alliances (IS)	0,641	0,594
Strategy	I think my product / service is very innovative in relation to what my competitors and other community businesses offer			0,628
Value Network	I'm always care of who to partner (suppliers, other business, family, other people, etc.) to add value to my business			0,566
Strategy	I have partnerships that have generated to my business advantages compared to my competitors			0,581
Value Network	I have found products / services from other businesses that complement my offer and we have partnered.			0,568
Sustainability at BoP	When developing products / services, I seek for cooperation from my customers	Differentiated Value Proposal (DVP)	0,464	0,292
Value Proposition	I think my products / services are different from those of competitors			0,341
Value Proposition	Consumer thinks what I offer is much better than what my competitors offer			0,420
Business environment	Often I look at what my competitors do to make decisions about my business			0,503
Sustainability at BoP	When I look for new employees, I find trained people in my community	Employment and Integration with the Community (CE)	0.4432	0,149
Sustainability at BoP	The operation of my business involves people from the community, either I give work to people in the neighborhood			0,347
Channels and Selling Model	I count on dedicated employees for selling what I offer			0,476

Information and Knowledge	I saved all invoices and receipts of the business for the last 2 years on the basis of purchases, sales, equipment repair etc.	Resources and Information (RI)	0,48	0,444
Resources and Capabilities	All equipment (e.g. Cash registers, computers) that are in my company are modern			0,406
Resources and Capabilities	In my company we have all the equipment (e.g. Computers, cash registers) needed to carry out our production, service delivery or sale.			0,306
Resources and Capabilities	As director of business I have all the knowledge and skills to run the business			0,462

Table 9: Model fit

Index	Value	Recommended cutoff
CMIN/DF	2,270	1-5
NFI	0,640	>0,90
GFI	0,803	>0,90
AGFI	0,763	>0,90
CFI	0,754	>0,90
PCFI	0,663	>0,80
RMSEA	0,066	<0,06
PCLOSE	0,000	>0,05
RMR	0,096	<0,05

Figure 1: Resulting model after validity and model fitting procedure

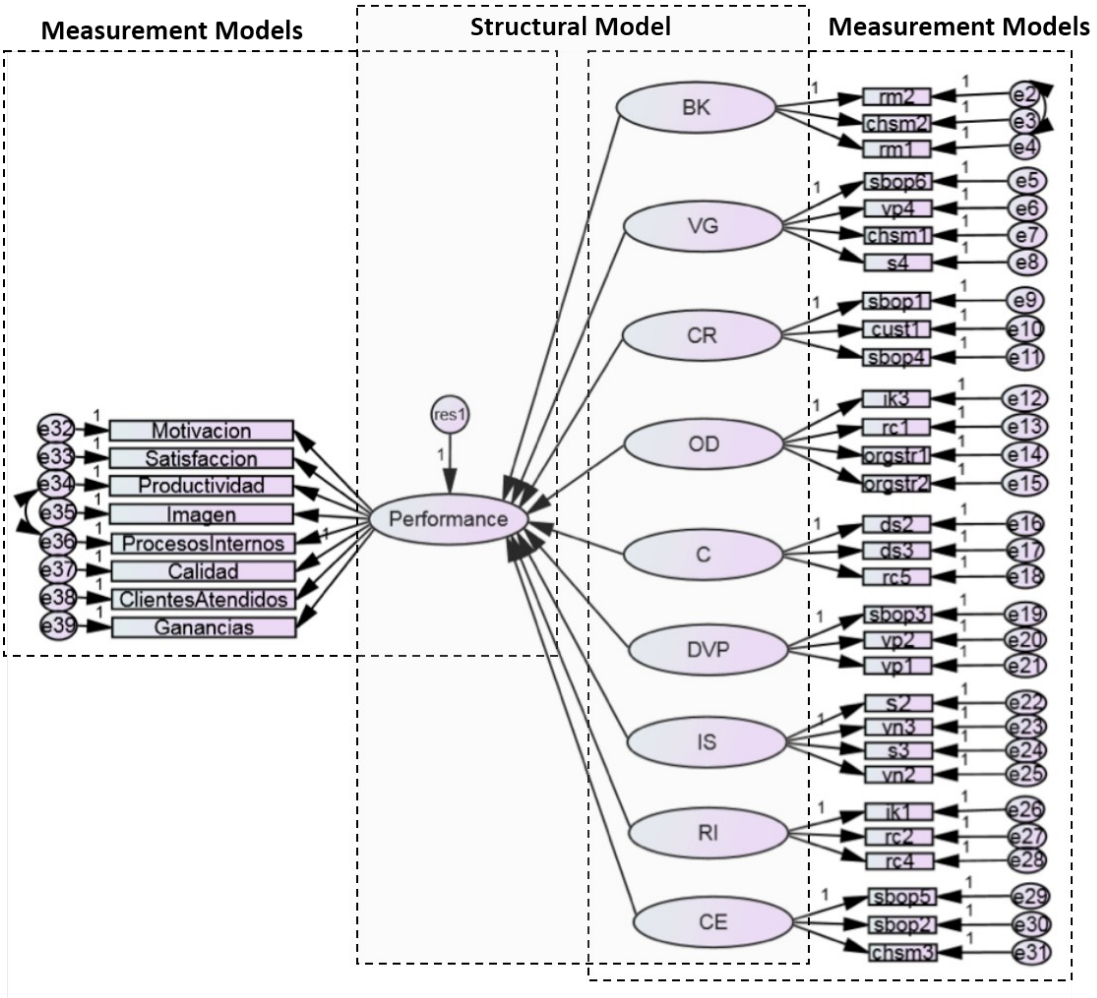
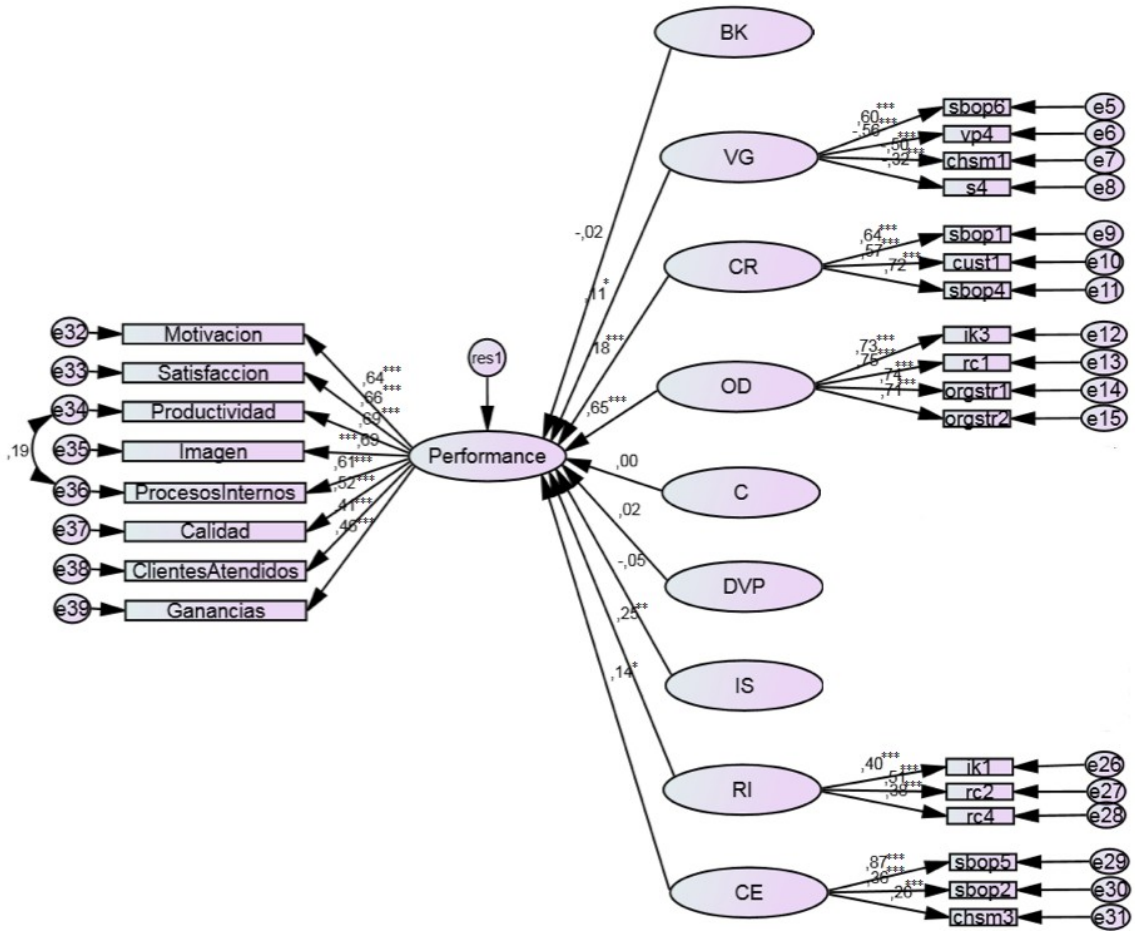


Figure 2: Path model and SEM estimates



Notes: ***p≤0,01;**p≤0,05;*p≤0,10; BK= Business Knowlege. VG= Value, Growth and Flexibility. CR= Relationship and Consumer Knowlege. OD= Organizational Dynalmic. C= Contingencies and Financial Resources. DVP= Differentiated Value Proposal. IS= Innovation and Strategic Alliances. RI= Resources and Information. CE= Employment and Integration with the Community.