The strategy of companies operating in the extended Bottom of the Pyramid - BOP-e. A study on the Financial Efficiency

Abstract

Using as a basis the Strategic Groups Theory, this research looks for strategic dimensions that lead to financial efficiency in the Extended Base of the Pyramid, relating the strategy and the financial efficiency of important sectors of the Brazilian economy. Among the few studies that interrelate strategy and financial efficiency in Brazil, this research aims to contribute to the advancement in the theoretical field of strategies related to the BOP, to present results on Strategic Groups (SG), contributing managerially by pointing out to the necessity of adopting strategies that aim at the BOP finance efficiency for the companies' decision makers.

Key-words: Base of the Pyramid - BOP; Financial Efficiency; Strategic Groups.

1. Introduction

On the Christmas holiday of 1995, Professor C. K. Prahalad's (2005) concern about integrating the poorest sections of the population into consumption began the study of the (*Bottom of Pyramid* – BOP). Since 1997, the author in partnership with Stuart Hart and subsequently in 1999 with Allen Hammond have published, respectively, two seminal articles - "*The Fortune at the Bottom of the Pyramid*" (2002) in the journal *Strategy and Business* and *"Serve the World's Poor, Profitably"* (2002) in the Harvard Business Review. From these studies, based on best practices adopted by companies, among them, Prahalad's own observation on the experience of *Hindustan Lever Limited*, an Indian subsidiary of Unilever, there were discussions and proposals of the authors for engaging in serving the Base of the Pyramid, giving origin to another *best seller*: "*The Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits*" (2005), becoming the starting point for the academia and the corporate world attention to this market, popularizing the concept of supplying goods and services to the low income social classes, hereinafter referred to as BOP. A large part of the world's population, according to Figure 1, is below an annual per capita income bracket of US$ 1,500, more precisely 4 billion poor (Prahalad & Hart, 2002).
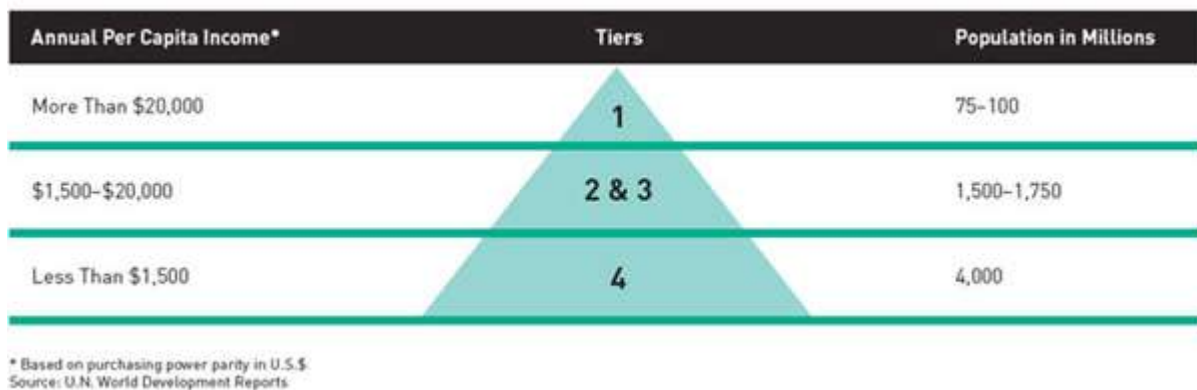

Figure 1 - Pyramid of social classes by range of per capita income and population
Source: Prahalad and Hart (2002 p.4)

For a long time, this consumer was ignored and despised by the companies, since there was no performance measurement coming from the service provided to BOP, until some companies started to allocate their actions and their investments to serve such market segment, having as the most famous example in Brazil the example of Casas Bahia, cited by Prahalad (2005).

In Brazil, James Wright, Johnson and dos Santos (1993) have already showed the importance of attending this market, still little valued for Brazilian companies, which were more concerned with serving the high-income families. However, there is some difficulty in measuring the BOP market size in Brazil, given the different forms of measurement presented, different from those presented by Prahalad and Hart (2002), which are based on the per capita income and not on the average family income.

The BOP market in Brazil, according to the academy socioeconomic classification criteria, used in the researches of Kamakura & Mazzon (2013, p.132), represented in 2011 a large number of potential consumers, about 33 million Brazilian households, 58% of the country's total households. Although variations in the average household income and inflation may interfere in this market attractiveness, strategic aspects in the BOP's performance are important and widely studied in the literature. "In order to serve the low-income consumer, companies need to understand their reality, their needs and develop specific strategies" (Barki, 2006, p.37). Similarly to what happened around the world, some Brazilian companies were successful in their approaches whitin this market, while others, not so much. There are frequent cases in the literature about companies that have been successful in the BOP (Jaiswal, 2007). However, it is very difficult to measure the organizations results objectively (Kolk, Rivera-Santos & Rufin, 2013).

There are in Brazil several researches carried out with the intention of understanding the organizations' strategies directed to the BOP. However, there are few researches carried out to measure their actual results. For this, the present research will rescue the concepts of SCP paradigm (*Structure, Conduct, Performance*) of Bain (1956), refined in the studies of Porter and Caves (1976), Porter (1980), Caves (1984) and Porter (1986), related to the studies of Strategic Groups (SG), which aim to help the study of differences in financial performance among companies in the same industrial sector and the success of the strategic dimensions used.

The research of Passos et al. (2015), with data from the Brazilian furniture industry, showed that, between 2001 and 2012, in just four years of this period, organizations aimed at BOP registered financial efficiency superior to that organizations not focused on the BOP market. In the studies of Giovinazzo (2003), in a sample with more sectors, the findings reinforced the services provided to the BOP market, where from 1997 to 2001 such companies had better operational and profitability results.

Given this scenario, it is important not only to verify if the specific strategies aimed at the BOP bring better performance to the organizations that adopt them, but also to what extent this performance takes place, in order to improve the managers' decisions.

1.1 Definition and problem situation

As far as the decision-making in the BOP market is concerned, it is imperative that organizations are aware of these market particularities, as well as about strategies of how to supply it, examining issues of which product to offer, where to offer it, at what price and at what quality level. It is known that the consumer of a popular product has low purchasing power and, in most cases, lives on the outskirts of the major centers of consumption. They are consumers who demand respect and product quality and they are, in no way negligible, considering the high number of people who make it up.

Research on the profitability (or lack thereof) of companies' initiatives that worked in the BOP would help identify what types of models are best to increase understanding, not only of the relationship between profit and poverty reduction, but also its impact on different types of initiatives in the BOP (Kolk et al., 2013).

Despite the opportunities, the entry attempt in low-income markets by reproducing strategies originally conceived for high-income markets did not succeed (Anderson & Billou, 2007; SadreGhazi & Duysters, 2008). Kanani (2007) considers the performance in this market as illusory dangerous, where quality and low price are incompatible and may not offer better performance.

Thus, the question proposed in this study is: **Which strategic dimensions are most relevant to the financial efficiency of the industries operating in the extended BOP market?**

The main objective is to identify the specific strategies for the BOP that presented the best financial efficiency for the organizations that adopted them, contiguous to this study, to compare the efficiencies between the organizations that operate and do not operate in this market in their strategic groups.

2 Theoretical Review

2.1 Theory of Strategic Groups

The term "strategic groups" was presented academically in Michael S. Hunt's (1972) doctoral dissertation with manufacturing industries of "white line" products that differed from each other in some key **strategic dimensions** (McGee & Thomas, 1986). In his study, SG's definition was of similar companies in terms of cost structure, product diversification, organization, control systems, rewards management and possible outcomes within a given industry (Fiegenbaum & Thomas, 1993).

Evolving the Bain's (1956) SCP (*Structure, Conduct, Performance*) paradigm, where the industry structure provided the context in which competition occurred, performance was defined encompassing dimensions such as allocative efficiency (profitability) technical (minimizing costs) and innovation. Still, according to Bain (1956), the conduct was the company's decision on key variables like price, advertising, capacity and quality, seen as the company **strategic**

dimensions. Porter and Caves (1976); Caves (1984); Porter (1986) admitted that such strategies, although influenced structurally by the environment, also influenced it.

The heterogeneity in performance among groups is fostered by the varying potential of profitability in which the companies in different groups are submitted (Caves & Porter, 1977).

Thus, organizations that follow the same strategy or similar strategies along the strategic dimensions are determined as strategic groups (Porter, 1980). The author points out that it is possible to verify these dimensions through the differences of a company's strategic options, such as: **specialization, brand identification, channel policy, channel selection, product quality, technological leadership, vertical integration, cost position, service, price policy, leverage, relationship with the headquarters and relationship with the governments of the country of origin and hosts.** "The breadth of strategic differences over a given dimension will depend on the **sector**. The strategic dimensions are related to each other, being internally consistent with the company's position"(Porter, 1980 p. 133).

Another aspect related to the heterogeneity occurs in the **organizations' size**, where smaller organizations, competing in the same market of larger organizations, need to fit into niches of less direct competition, mainly seeking more comfort in the specialization than in the scale which is more related to large companies (Porter, 1989).

2.2 Products and the BOP market structure

To operate in the BOP market it is necessary to have specific strategies as well as a specific product derived from these strategies.

Popular products or services aimed at the BOP can be characterized as inferior goods whose income-effect is negative, where an increase in income should provide the substitution of this good for another non-popular or normal good (Varian, 1993; Ferguson, 1993; Pindyck & Rubinfeld, 1994). They are positioned as products oriented to the classes C, D and E (Giovinazzo, 2003, p.18). In contrast, a normal good is one in which an increase in income must cause an increase in the consumption of the good consumed, that is, the income-effect is positive, characteristic of a non-popular product (Ferguson, 1993; Pindyck & Rubinfeld, 1994).

Offering products to the lower classes of the pyramid can provide profitability for companies and eradicate world poverty, taking into account the implementation of BOP specific strategies in emerging markets (Prahalad & Hart, 2002). However, the common mistake of most companies and of the academia is to consider that the BOP is a homogenous market (Rangan et al., 2011). The author identifies at least three segments at the base of the global pyramid, composed of 4 billion people (cited in Prahalad & Hart, 2002), according to Table 1.

In the latest version of his major work "Wealth at the Base of the Pyramid", Prahalad (2010 p.74) recognized the different characteristics in the BOP markets as well as the specificities of developing countries, including between each of them, with no universal solution, but the need of attention to functionality, price, technology, production scale,

sustainability, process innovation, customer education, channels and production costs. Being the organizations (strong clamor for multinationals) willing to face such challenges, it is possible to operate successfully at each of the BOP levels.

Table 1 – BOP Levels

Name	Population	Earning	Characteristic
Low income	1.4 billion people	U$ 5 to U$ 3 per day	Access to education Job opportunities
Subsistence	1.6 billion people	U$ 3 to U$ 1 per day	Without access to education Temporary employment Low pay
Extreme poverty	1.0 billion people	Less than U$ 1 per day	Search for housing and poor access to water, basic hygiene and nutrition.

Source: Adapted from Rangan et al. (2011).

Although the economic classifications used by Prahalad and Hart (2002) and Rangan et. (2011) are different from the classifications addressed by several domestic institutes, they are a challenge to the BOP researchers about what social classes make up the Brazilian BOP (Rocha & Silva, 2008; Castilhos & Rossi, 2009; Mattoso, 2010; Koki & Pacagnan, 2012; Costa Nogami, Vieira, & Medeiros, 2012). According to the bibliometric research of Koki and Pacgnan (2012), there are more studies that present class C as belonging to BOP in Brazil than studies that do not include it, since there are studies that consider BOP advocated by Prahalad and Hart (2002) as only related to classes D and E, in Brazil. Many academic papers consider that low-income populations can extend well above the poverty line because class C has middle class and BOP people (Kolk et al., 2013). For this reason, the authors defined the name of this study as the Base of the Extended Pyramid, henceforth (BOP-e), with the clear intention of describing to the respondents the target audience of their actions, considering the extended BOP as the one that includes families with average income of up to 10 monthly minimum wages.

In the studies on metrics of success of Brazilian organizations, some strategic dimensions followed exactly the logic presented by Prahalad (2005) as possible success fueling for organizations in the BOP. In Giovinazzo's work (2003), with non-durable and semi-durable goods companies, four important dimensions were relevant for the operation in the low-income market: 1. **price,** 2. **cost,** 3. **brand differentiation**, and 4. **quality**. Passos et al. (2015) studied durable consumer goods companies, finding the same dimensions. In addition to these, other dimensions were highlighted in the furniture industrial sector: **the service**, with the offer of easy access to the products, an efficient distribution, in the shortest possible time and with quality; **the channel policy**, indicating that the proximity to the consumers makes them feel recognized and valued, which contributes to their adhesion to this brand; and, finally, **the company's specialization**, where the results showed that the companies that work for BOP have a lower product mix in relation to companies that did not work for BOP.

In a way, the findings of the previous studies are framed in the market structural model for the BOP, of Prahalad and Hart (2002 p.8).

2.3 Strategic dimensions for the BOP

Although Porter's (1980) studies on SG have not been made to evaluate specific markets, it is clear that most of the organizations and strategies focused on the BOP are set inside the thinking model related to the dynamics explained by him, as differentiators of the groups. Intuitively they have permeated the search for competitive advantages over competitors in the BOP, often without the scholars perception on the subject. These characteristics were used in the studies of Giovinazzo (2003), Spers and Wright (2013) and of Passos et al. (2015) and were revealing of specificities of the BOP competitive nature.

The studies of Schrader et al. (2012), with large multinationals active in the BOP, indicated that all of them presented in common the specific development for these markets (**specialization**); the search for leadership (**technological leadership**); with adequate personalization level and innovation in the product delivery, considering the sustainability and the operation with local partners in the value chain (**low vertical integration - channel policy**), once a stable and quality raw material supply is necessary.

The challenge of innovation requires solving consumer problems with new technologies (Prahalad, 2010, Angot & Plé, 2015). These authors add that because of the market great sizes, the solutions need to be tailored to low-income similar markets.

The dedicated structure (**channel selection**) was an option found in the Angot and Plé (2015) studies, where the brand and the branch explicitly provide exclusive products and value propositions for the BOP.

Parente and Barki (2005) pointed out three retail service strategies for the BOP: low price strategy, with reduction of operational costs induced by a lower level of service, limited quantities and fewer services; benefits strategy, with the pursuit of customer preference through benefits, good service, variety of products (**low specialization**) and good facilities; and the proximity strategy, with the value proposition tied to physical proximity (**channel policy and brand identification**) and a more intimate relationship with the customer.

It is important to preserve the **quality of the service**, but at an affordable cost in order to attract the customer base and profit may come from the consumption at scale (Prahalad, 2010, Akter et al.

These dimensions are observed by the scholars of the BOP in each of their works, others were incorporated into them, the emerging strategies such as **Credit Policy**, the **Internet and Social Networks Use**. The least-used or least-cited dimensions are Leverage, Relationship with the Headquarters and Relationship with Governments, excluded, therefore, from the research tools of Giovinazzo (2003) and of Passos et al. (2015). These strategies were considered as emerging strategies by Passos et al. (2015), citing Mintzberg (1978), as strategies that are not initially planned by the organization, but over time and considering the technology and customs change, are perceived by these organizations as important strategies.

The **credit** issue is quite common in emerging countries, whose BOP is extensive. Credit is an instrument of social inclusion of the working classes, since it can make it possible to finance small inputs and production tools to increase the income of this population (Wright & Spers, 2011).

On the other direction, **credit to the supplier** is a precondition for relations in the value chain. Krause et al. (1998) and Adams et al. (2012) point out that one of the key variables for strategic relations between suppliers and customers is the negotiation of prices, deadlines and knowledge exchange. Such a negotiation is important because it makes possible a partnership based on loyalty and trust between suppliers and customers, vital to meet the BOP needs (Prahalad, 2012).

Although there are few published works related to BOP, it is well known that the **Internet** access provided by the prices cheapening of microcomputers, notebooks and, more recently, *smartphones* and the popularization of their use, can intuitively be considered an important source of competitiveness in the BOP. This is so having in view that even in the calculations of Brazilian population's cost of living, the expenses with this type of communication have already been included, and they have been increasing proportionally. In Brazil, this can be verified by the websites of companies heavily associated with BOP, such as Casas Bahia. The **internet** has been able to create a new business model based on new systems, marketing management, among other facilities that make it a very useful tool (Soares & Hoppen, 2000). "In terms of business, the internet is a high potential tool." (Soares & Hoppen, 2000, p.96).

Social networks are important sources of access for the decision-making of consumers with limited access to information and also for small companies with difficulties of scale, which means that many agents in the BOP present the roles of entrepreneurs and consumers at the same time, influencing each other in the solution of their demands (Banerjee & Duflo, 2007; Beninger & Robson, 2015). Consumers tend to rely heavily on social networks, even more than in the mass marketing (Viswanathan, Rose & Ruth, 2010a cited Beninger & Robson, 2015).

Social networks present themselves as a great opportunity to improve the relationship with the end consumer and their interaction (Rocha et al., 2013, p. 278). Their scholars present social networks as an important tool for public relations or relationship between companies and their consumers. Through them it is possible not only to respond quickly to customer demands, to monitor it, as well as to establish business relations of buying and selling. The work of Rocha et al. (2013) pioneered the evaluation of this tool use by companies in Brazil because, as they highlight, there is a growing interest by organizations on the subject, but the subject is little discussed academically.

Although strategies for BOP can be intuitively possible and even deliver interesting results for companies, there are detractors. Karnani (2007) and Jaiswal (2007) suggest caution to companies in this market, since the profit and the opportunities are for them, very modest, especially for large companies that need economies of scale. There are better opportunities when the company reduces prices significantly in an innovative way by the *trade-off* price-quality, made in an acceptable manner to the poor people (Karnani, 2007 p. 109). Without the important historical understanding of the

local situation and socially grounded, the BOP service project risks moving forward on simplistic solutions to complex issues (Chatterjee, 2016).

3. Research Development

3.1 Nature and Method

This research has an exploratory-descriptive character, since it aims to make the research problem more familiar and explicit given the scarce availability of information in the domestic literature on the financial efficiency of the organizations that work in the BOP. The research is also descriptive, since it aims to expose the characteristics of the population sample as well as to establish relations between the variables and their nature related to the BOP market, "[...] without the commitment to explain the phenomena that it describes, although it serves as a basis for such an explanation" (Vergara, 2013, p.42). As for the means, the research is bibliographical, since it involves the systematized study and developed based on material published in books and scientific articles for the theoretical and field basis, since the primary research elaboration was based on a questionnaire sent to the participating companies. As for the sources, it combines primary and secondary surveys from participating organizations. Secondary surveys provide the financial and records data of the companies surveyed in the Serasa Experian database, and the primary data were collected from the companies through a self-administered structured *survey* via electronic instrument sent to the e-mail of a list of respondents from Brazilian industry sectors. As for nature, it is a quantitative research, since it uses basic statistics, inference and multi-criteria methodology for analyzing data coming from the *survey* and the financial statements. It is a non-probabilistic sample by accessibility, since there is easy access to the material and by typicality, since the elements of the sample were selected to be representative of BOP and non-BOP companies, characterized by the approaches presented in the literature review.

3.2 Universe and Sample

As for sampling, it is considered non-probabilistic for convenience, that is, it is not intended to be statistically representative of the population and involves the selection of more available elements. Thus, a cadastral query of primary research was carried out to raise all companies from various sectors of the industry, among them, the furniture industry (durable goods), clothing (semi-durable), hygiene and cleaning, food and beverages (non-durable) which had financial statements between 2001 and 2014, in the database of Serasa Experian, a leading company in credit information solutions. In a project funded by Fundep / Cnpq, an initial telephone contact was conducted to obtain a valid e-mail in a sample of 4,645 industries.

From this base, 412 companies responded completely to the survey, with 150 companies representing the food industry; 38 beverage industry companies; 101 companies in the clothing industry; 29 companies in the hygiene and beauty industry; and 94 companies representing the furniture industry, which represented an 8.8% response rate.

Regarding the survey respondents qualification, more than half have supervision level (56.3%); 34.2% of directors; 3.6% of advisors and 5.8% of analysts and technicians, mostly decision makers, able to answer questions of strategic dimensions.

3.3 Treatment procedures and data analysis

After collecting the data, comparative tests were checked on the instrument itself to ensure the answers reliability. The comparison between positioning information and social class and current market share was one of them.

For the responses validation in *Likert* scale it was used the *Cronbach's Alpha*, which presented standardized and non-standardized coefficients, respectively, 0.721 and 0.736, showing that the scales used are consistent, therefore, satisfactory for multivariate analysis. Hair et al. (2005) treats 0.7 as the ideal minimum for researches in general and 0.6 for exploratory researches.

The research pre-test was carried out before the master's thesis of one of the authors, which gave rise to the studies of Passos et al. (2015). From the contacts made by the research Follow-up, 22 companies were selected to participate in the research pre-test. In addition to these precautions, all the specific tests presented in the own multivariate techniques, such as parametric, non-parametric tests, and all sorts of confirmatory and corroborative analyzes were carried out to fulfill the research objectives.

3.4 Theoretical and operational definitions of variables

The proposed model relates, in the foreground, the BOP and non-BOP companies with the key strategic dimensions, thus it becomes important to define them.

Backed by Giovinazzo (2003) and Passos et al. (2015) for the handling of information from the primary research, in this study, respondents indicated the participation of goods or popular products in the composition of their revenues, which made it possible to determine the type of offer. It was explained and characterized to the respondents what would be the supply of products intended for the BOP-e so that they could measure what percentage of their revenues came from these products. Companies that had a turnover share of over 60% in popular products are considered active for BOP-e. On the other hand, companies that have a share of popular goods below 40% are considered not active in the BOP or non-BOP. There is between these two limits a group of companies that in the studies of Passos et al. (2015) were called companies offering mixed products (they present BOP-e and Non-BOP products).

In addition to the markets identification, the *survey* recorded the main measurements of the organizations' participants consulted in relation to the main strategic dimensions presented in this study.

Table 2 presents the main questions segmented by type of dimension, the authors who described them in their studies and the evaluation scale used, in a summarized form, replicated from the studies of Giovinazzo (2003) and Passos et al. (2015).

Table 2 - Main strategic dimensions used in the questionnaire

Strategic Dimension	Author (s)	Question	Scale
Differentiation of Brands	Porter (1986); Giovinazzo (2003); Prahalad (2010).	Degree to which the company seeks to differentiate its brand to its consumers through promotions, advertising, sales force, packaging, among other means.	Likert 0 - 10 0 Little bit 10 a lot
Product Quality	Porter (1986); Giovinazzo (2003); Prahalad (2010); Akter et al. (2012).	Product quality level in terms of raw materials, specifications, certifications etc;	Likert 0 - 10 0 low 10 high
Technology Leadership	Porter (1986); Giovinazzo (2003); Rocha and Silva (2008) Schrader et al. (2012).	Degree to which the company seeks to be at the technological leadership in its sector.	Likert 0 – 10 0 Little bit 10 a lot
		To whom it is assigned the innovation of their products and services?	Categorical 5 items
Cost Position	Porter (1986, 1989); Giovinazzo (2003); Barki (2006); Prahalad (2010).	Degree to which the company seeks the lowest cost position in the production and delivery of the product through investments in facilities or equipment to minimize costs.	Likert 0 – 10 0 Little bit 10 a lot
		Indicate other form of cost minimization:	Categorical 5 items
Customer Service	Porter (1986); Giovinazzo (2003); Barki (2006); Prahalad (2010); Akter et al. (2012).	Degree in which the company provides auxiliary services in its product line, such as technical assistance, own service network.	Likert 0 – 10 0 Little bit 10 a lot
Channel Policy	Porter (1986); Giovinazzo (2003); Barki (2006); Rivera-Santos and Rufin (2011); Schrader et al (2012).	Degree in which the company seeks to develop the brand identification directly with the end consumer.	Likert 0 – 10 0 Little bit 10 a lot
Vertical Integration	Porter (1986); Rivera-Santos and Rufin (2011); Schrader et al (2012).	Degree of forward or backward integration adopted by the company including distribution and exclusive retail stores.	Likert 0 – 10 0 Little bit 10 a lot
Price Policy	Porter (1986); Prahalad e Hammond (2002); Giovinazzo (2003); Barki (2006); Rocha and Silva (2008); Prahalad (2010).	Degree of importance of the final price for the product sales.	Likert 0 – 10 0 Little bit 10 a lot
		Regarding the company and the competition's price policy, on average, what percentage of its price is usually above / below average compared to the competition prices?	Metrics %
		How are the company's final prices formed?	Categorical 5 items
Internet Use	Soares and Hoppen (2000)	Degree of use of electronic exchanges, information flows and goods originated through the internet.	Likert 0 – 10 0 Little bit 10 a lot
Use of Social Networks	Banerjee and Duflo (2007); Rocha et al (2013); Beninger and Robson (2015)	Degree of use of social networks (Orkut, Facebook, Twiteer, Linkedin, among others) for company public relations and product marketing.	Likert 0 – 10 0 Little bit 10 a lot
Channel Selection	Porter (1986); Giovinazzo (2003); Prahalad (2010); Rivera-Santos and Rufin (2011); Rangan et al. (2013); Schrader et al (2012); Angot and Plé (2015).	Model in which the company seeks to reach its consumer at the sale point through a distribution channel. How the distribution of your business is done?	Categorical 5 items
Company Specialization	Porter (1986); Giovinazzo (2003); Barki (2006); Schrader et al (2012).	Degree to which the company spends its efforts on its product line or market segments. How many categories of products does your organization work with? In how many market segments does your organization operate?	Metric - Number of Products and Segments
Credit Policy	Krause et al. (1998); Prahalad and Hart (2002); Rocha and Silva (2008); Wright and Spers (2011); Adams et al. (2012); Prahalad (2012).	Relationship between customers and suppliers. Number of days the company finances its customers. Number of days the company borrows from its suppliers. What is the average number of days that the company finances its customers? What is the average number of days that the company requests deadline from its suppliers?	Metric – Number of Days

Source: Adapted from Passos et al. (2015).

The organizations size can be defined by a multitude of criteria and methods, and there is no consensus in the literature about the use of any of them, in that way. It is so because the accounting data used in the research come from the

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standardized statements in the Serasa Experian databases (2015), the leader in information relevant to credit. Being so, the sizes will be defined as follows:

- Middle Companies - Net Sales or Total Assets between R$ 4 Million and R $ 25 Million;

- Middle Plus Companies - Net Sales or Total Assets above R$ 25 Million and below R$ 50 Million;

- Corporate Companies - Net Sales or Total Assets above R$ 50 Million and below R$ 200 Million;

- Corporate Plus Companies - Net Sales or Total Assets above R$ 200 Million.

For the measurement of financial efficiency, the initial procedure was to calculate the conventional indices used for company analysis extracted from the Serasa Experian database, according to Matarazzo (1997) and Bortoluzzi et al. (2011), among them: Current Liquidity; Net Asset Turnover, Net Margin, Return on Assets, Return on Equity, Third-Party Equity Interest, Debt Composition, Fixed Assets Shareholders' Equity, and Fixed Assets of Non-Current Assets considered sufficient by these authors for the financial evaluation of the organization..

In this process, all cases, of all years, in each sector, were separately placed in sectoral unified files for the *Box Plot* of the 9 indicators with up to 2 deviations from the mean. This procedure was intended to purge the non-standard indicators by sector, and normalize the data within the industry standard over a 14-year period.

This procedure was important to get a measure of performance, driven by an index only, built by several different performance approaches arising from the financial indicators. For this, the authors have opted for the use of DEA (Data Envelopment Analysis). The main *input* indicators for the DEA were the participation of third party capital, the composition of indebtedness, the immobilization of shareholders' equity and the immobilization of non-current resources. The other indicators were used as *output*. The DEA model used in this study is the BCC of Banker, Charnes and Cooper (1984). This model considers variable returns to scale and does not assume proportionality between *inputs* and *outputs*, useful for this study, due to the difference in scale of the different companies analyzed and because it also presents negative indices in some variables such as margins, ROE and ROI.

The analysis models were run in SIAD - Integrated Decision Support (Angulo-Meza et al, 2003b) in order to classify the classical efficiency rates obtained by the companies of the sample in the DEA and its inverted and composed borders, standardized, divided by the higher composite efficiency. Thus, it was possible to create a ranking of companies, from the most efficient to the least efficient, favoring the comparison of efficiency among the companies of the sample, year by year.

With the ranking of the most efficient companies of inverted borders, composed and standardized, it was carried out the comparison of the efficiencies averages of the companies that operate in the extended BOP, of the companies that do not operate in it, year on year, by the SPSS23.

The following procedure was to create a Fisher's discriminant function by the *stepwise* method between the types of product suppliers and the strategic dimensions standardized in *Z scores*, thus presenting the strategic dimensions that differ the companies that participate in the BOP-e from those that do not participate.

Finally, all companies participating in the BOP-e were evaluated in another Fisher discriminant function by the *stepwise* method, where the strategic dimensions are presented according to the degree of efficiency achieved.

4. Discussion of Results

Within the SG theory, it was possible to identify groups of companies in the BOP-e market that operate with specific strategies getting different financial efficiency results. These results were also confronted in relation to the organization and the sector size, as defined by Porter (1980, 1989).

Regarding efficiencies compared among companies operating in the BOP-e and the companies that do not operate in it, of the 14 years investigated, in only two years there were significant differences in efficiency among the suppliers for the BOP-e, for Non-BOP and Mixed. Considering the normality assumptions, the Analysis of Variance (ANOVA) showed difference in 2006 and in 2010 in the market efficiencies. In 2006, favorable to suppliers of products considered mixed (57.7% average efficiency), 46.2% average efficiency for non-BOP suppliers and 44.3% average efficiency for BOP-e suppliers. In 2010, the suppliers for the BOP-e showed greater efficiency with 62.3%, followed by suppliers of mixed products (61.7%) and by the suppliers of non-BOP products (56.2%). Companies in general have experienced an improvement in the efficiency level between 2006 and 2010.

This result also corroborates with the studies by Passos et al (2015), where in most periods there was no difference in the efficiency among the types of suppliers, showing that the financial efficiency is not related to the type of BOP, Non-BOP or Mixed supplier, and also in part corroborates with Karnani (2007) and Jaiswal (2007), when they affirm that the gains in the BOP are illusory.

Regarding the specific dimensions to operate in the BOP, it can be seen that the SG that operated in the BOP-e gave greater emphasis on the price importance, on larger product lines (medium specialization) and on a reduced deadline for the customer, as it may be observed in Table 3, generated by SPSS23 software.

Table 3 - Fisher linear function coefficients of classification by general suppliers

Strategic Dimensions	Suppliers		
	Non-BOP	**BOP-e**	Mixed
Price Policy (importance)	-.343	**.258**	-.137
Specialization	-.124	**.029**	.524
Credit Policy (customer)	.164	**-.093**	-.206
Constant	-1.016	**-.632**	-2.978

Price policy appears as one of the distinctive strategies of companies operating or not in the BOP. The positive coefficient of the price dimension can be interpreted as of great importance in the popular market. The price policy is a unanimous variable and corroborates with all the authors surveyed, where low prices allow BOP markets access to products (Porter, 1986, Prahalad & Hammond, 2002, Giovinazzo, 2003;, 2008).

The positive coefficient in the specialization dimension recommends an average mix of products to operate in the BOP-e, and, not so specialized as presented by the non-BOP products' suppliers, nor with such a variety of products offered by the suppliers of mixed products. Researchers point out that all companies need to work with a suitable mix of products to serve the low-income population (Parente & Barki, 2005; Schrader et al., 2012).

The negative coefficient recorded in the credit policy (although not very representative) shows companies focused on the BOP market buying within a shorter payment period than non-BOP companies. From the point of view of strategic relations between suppliers and customers, also explained in section 2, Krause et al. (1998) and Adams et al. (2012) state that negotiating prices, negotiating deadlines and the exchanging knowledge between both parties are important aspects. Although this statement has no power to explain fully the reason for the longer credit gap in favor Non-BOP suppliers, it indicates discounts as a possible explanation, based on the strategic and rational relationship. Furthermore, this deadline, through the coefficients analysis indicates that it is a little longer than the deadline granted by the suppliers of mixed products, but lower than that offered by the suppliers of normal products.

In order to answer the research question, it is possible to determine, in a general context, by sector and by size, what are the strategic dimensions that differentiate the most efficient practices from the least efficient ones among all suppliers of BOP-e products only. The analysis reveals differences in the SG from the point of view of financial efficiency. In Table 4, Table 5 and Table 6 it is possible to distinguish the strategic dimensions that lead to the high efficiency in the BOP market.

Table 4 - Coefficients of Fisher linear function of financial efficiency rating in the general BOP-e

Strategic Dimensions	Financial Efficiency		
	High efficiency	Low efficiency	Average Efficiency
Credit Policy (customer)	**.194**	-.269	-,207
Constant	**-1.148**	-1.062	-1.161

The most efficient companies that operate in the BOP-e have, as main strategic dimension, the credit policy to the customer, offering longer term to their customers, when compared to other companies of medium and low efficiency that operate in the BOP-e market. This dimension also differentiates the suppliers of Non-BOP, Mixed companies and BOP-e. In Table 3, the negative coefficient indicated the medium term, then it follows that the credit providing from the most efficient suppliers that operate in the BOP-e are exactly between the maximum possible point of credit within the short term and of the minimum point of the long term, which is equivalent to the average of 50 days.

By sectors and by size, the SG in the BOP-e recorded strategic dimensions that differentiate the most efficient companies from the sample and the less efficient, proving the SG literature. Table 5 presents the main strategic dimensions that promote financial efficiency by sector. Table 6 shows the main strategic dimensions that promote efficiency by size.

In the beverage sector, the suppliers of products for BOP-e that registered greater financial efficiency presented the strategic dimension of specialization with positive signal coefficient. Being so, they have low specialization or a greater variety of products in relation to the other suppliers for BOP-e, more precisely at least 6 or more products in their production line. This fact proves to be an important practice for these companies, since they direct much of their growth to other types of beverages, such as juices, teas, waters, other flavors, the search for the healthiest and special products such as the craft beer and the craft cachaça (Rosa et al., 2006, p 116, Cervieri Junior et al., 2014, p.128).

Table 5 - Fisher's linear function coefficients of financial efficiency rating in the BOP-e market by Sector

Sector	Strategic Dimensions	Financial Efficiency		
		High Efficiency	Low Efficiency	Average Efficiency
Beverages	Specialization	**1.019**	-1,807	-.728
	Constant	**-1.565**	-2.280	-1,046
Clothing	Specialization	**-.501**	.509	.241
	Constant	**-.859**	-1.374	-1.462
Furniture	Vertical Integration	**.120**	-.826	.372
	Constant	**-.855**	-2.289	-.917

Unlike the beverage sector, BOP-e suppliers in the clothing sector, which presented greater financial efficiency, recorded fewer product lines (up to 3 lines) compared to the other less efficient competitors, explained by the sector's characteristics, namely, the characteristic of presenting mostly small companies with small scale and therefore more specialized, many subcontracted of larger companies downstream of the chain (Costa et al., 2009).

In the furniture sector, the highest financial efficiency was registered for the BOP-e suppliers that present moderate vertical integration, although they are a minority of companies. As pointed out by the studies by Galinari et al. (2013, p. 245), the search for the opening of own stores seems to be the strategy that generates more efficiency in the sector, in the BOP-e.

No strategic dimensions differentiators were found among high, low and average financial efficiency in the companies that operate in the BOP-e of the food, hygiene and cleaning sectors.

Finally, in the classification by size of company, only the strategic group of *small* and *small plus* presented strategic dimension differentiator in the BOP-e. Table 6 shows the customer credit policy related to a longer term, as a dimension that in the BOP-e brings greater financial efficiency to its suppliers, when compared to other *small* and *small plus* suppliers. This result corroborates the one presented in Table 4, where the credit offerings of the most efficient suppliers are equivalent to at least 50 days.

Table 6 - Fisher's linear function coefficients of financial efficiency rating in the BOP-e market by Size

Size	Strategical Dimensions	Financial Efficiency		
		High efficiency	Low efficiency	Average efficiency
Small Plus and Small	Credit Policy (customer)	**.914**	-.768	-.231
	Constant	**-1.159**	-1.473	-1.273

5. Considerations

This study deals with the financial efficiency analysis of companies operating in the Base of the Extended Pyramid (BOP-e) market, an important qualification, since there is considerable controversy on what the BOP size in Brazil would actually be, being considered in most studies the inclusion of social class C, because it includes both, members belonging to classes D and E, originally credited to the BOP, and members of the middle class, above the BOP.

Studies on financial efficiency are rare, which makes this study important from a theoretical and managerial point of view, since it deals with the organizations financial data for measuring the financial efficiency by multi-criteria technique. In addition to presenting as main research axis the so-called SG, little studied also from the financial point of view, assessing the BOP market. To that end, a self-administered *survey* for the main executives of Brazilian food, beverage, confection, hygiene and furniture industries asked questions regarding the SG aggregating or non-aggregating strategic dimensions related to the products sold by these industries to retailers, classified as popular products intended primarily for low-income consumers.

The great controversy regarding the results of the effective actions and strategies for the BOP advocated mainly by Prahalad (2005), among others, and weighted by Karnani (2007) among others, received attention in this study. This is so because since the financial analyzes and financial efficiency assessments of more than 400 industries between 2001 and 2014 indicated that there were no differences among the financial efficiencies found in the companies that served BOP and those that did not serve in most periods. Due to the economic improvement seen in this period, it was expected that the increase in the purchasing power of social classes D and E would affect the companies, justified by the migration to Class C, considered in this study.

Within the SG classification, important strategic dimensions differentiator of these groups could be observed in the BOP literature. Such strategic dimensions, although they do not promote the difference of efficiency between attending or not the BOP, they help a lot to understand this market from a conceptual point of view.

Among the strategic dimensions differentiators of operating in the BOP-e or not are: the Price Policy (very importance), the Specialization (moderate specialization) and the Credit Policy (average term to the customer), probably related to the search for financial discounts.

Responding to the research question and to the main objective of the study, based on the 204 companies that exclusively operated in the BOP during the period, the strategic dimensions that provided greater financial efficiency for 76 of these organizations were: the credit policy to the customer (medium term, equivalent to about 50 days); the Specialization, low in the beverage sector and high in the clothing sector, derived from specific sectoral characteristics and vertical integration in the furniture sector, found as a practice for a few companies in this sector.

As it can be seen, there were differentiations between the highly efficient SG from the sectorial point of view and by size, which prove the SG theory, presenting companies that compete in the same strategies, however, with heterogeneous results.

Among the main limitations of the study are the impossibility of the researcher not being able to control or manipulate the variables further. In addition, although electronic questionnaires may have numerous advantages such as practicality, cost savings and results calculation speed, the disadvantages are also significant and cannot be ignored. Among the main limitations, the inability to gauge whether all respondents directors and supervisors actually had contact with the survey was one of them, although the email contacts with the questions resolution were, in their entirety, with the same respondents who were qualified by email by the *follow-up*.

To assess if all the respondents actually understood the classifications and the questions and gave the answers compatible with the functioning of their organization. Another important limitation was the mismatch between the research responses and the financial statements of the companies in order to determine the financial efficiency, since many cases in the previous test were eliminated because they presented *outliers* in the financial analyzes. This has significantly reduced the number of cases in which the survey responses are together with the efficiency data.

As main proposals for future studies, the authors recommend the search for theoretical basis for the inferences presented in the relationship between suppliers and customers in the case of the credit Policy in the BOP; analyzes with other sectors and with other possible emerging strategic dimensions, not considered by this study. Acting only with the pure BOP, without class C, could be a way to obtaining new *insights*.

6. References

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