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Segmenting the Bottom of the Pyramid Consumers: Theoretical Approach

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Abstract

The Bottom of the Pyramid (BOP) market deserves further attention from researchers. The purpose of the paper is to profile the psychographic and behavioral heterogeneity within the BOP market in India employing a theoretical approach. We use constructs of the Theory of planned behavior (TPB) to identify distinct BOP segments. It segments the BOP market in the context of durable goods, non-durable goods, and services. The findings demonstrate the presence of three consumer segments, each of the durable and non-durable goods. In the context of services, the findings show the existence of four segments of BOP consumers. This study offers insights into application of behavioral theories for segmentation, which could help with behavioral change of BOP consumers to use high-quality products and services. Further, it is significant because the BOP market has witnessed a progressive decline in size as a large segment of the BOP market is being transformed into the middle class. Comprehension of the cognitive and behavioral tendencies of each consumer segment would strategically help in retaining the brand loyal BOP customers when they upgrade to the middle class.

Keywords

bottom of the pyramid, psychographic, behavioral, segmentation, goods, services

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Introduction

The global Bottom of the pyramid (BOP) market constitutes more than four billion people who thrive on less than $2 per day (Lappeman et al., 2019; Prahalad, 2005; Prahalad & Hart, 2002). Nevertheless, globally it is a 4–5 billion avenue for organizations (Prahalad, 2005; Prahalad & Hart, 2002; Simanis & Duke, 2014) with an aggregate purchasing power of US $5 trillion (Hammond et al., 2007; Subrahmanyan & Gomez-Arias, 2008). Prior research has examined the need for sustainable business models and innovation for the BOP segment (Marconatto et al., 2016; Molina-Maturano et al., 2020; Mukherjee et al., 2020). Scholars have paid attention to entrepreneurship in developing economies at the base of the pyramid (Morris et al., Nuemeyer, 2020).

The BOP narrative is in complete contrast to the traditional view, which assumes that poor people cannot afford their basic needs and continually requires charity and social support (Dembek et al., 2019; Jayawickramarathna et al., 2019). It has surfaced as a propitious approach to poverty alleviation (VanSandt & Sud, 2012) and making profits while serving the poor (Elaydi & Harrison, 2010; London et al., 2010; Mena et al., 2010; Prahalad, 2005; Schuster & Holtbrügge, 2012; Singh et al., 2014; Sridharan et al., 2017). Ever since the espousal of the BOP proposition by Prahalad and Hart (2002), it has gained strategic prominence as a new growth opportunity for business corporations, as they are strained to survive owing to slow economic growth, a shrinking middle class, and growing market uncertainties (Euromonitor International, 2016).

The BOP market is not one homogenous, monolithic block (Chikweche & Fletcher, 2012; Dembek et al., 2019; Esposito et al., 2012; Kang, 2014; Laporte, 2017; Rangan et al., 2011) as it is marked by diversity, and hence, segmentation is the key to understanding this market (Ahmed, 2013; Dahana et al., 2018; Jebarajakirthy et al., 2015). Extant literature has recognized the miscellany within the BOP market and has articulated different BOP market segments that are primarily based on demographic variables (Hammond et al., 2007; Jaiswal & Gupta, 2015; Jayawickramarathna et al., 2019; Mathur et al., 2018; Vishwanathan et al., 2019). However, demographic variables are not adequate for consumer segmentation (Mykletun et al., 2001). Bottom of the pyramid is a pluriversal world "in which many worlds, knowledges and histories could coexist" (Faria & Hemais, 2017) and where consumers differ in their values, lifestyles (Dey et al., 2016), personalities, motivations (Kang, 2014), needs (Hasan et al., 2017; Subrahmanyan & Gomez-Arias, 2008), preferences, attitudes, and behavior (Chikweche & Fletcher, 2012). Though consumer heterogeneity subsists within the BOP markets (Gollakota et al., 2010), prior research does not offer any insight into cognitive predispositions of BOP consumers. Although the psychographic variables manifest very differently in BOP consumers (Kang, 2014; Vishwanathan et al., 2019), there is limited research investigating the psychographic and behavioral evaluation of BOP consumer segments (Jebarajakirthy et al., 2015). Although prior research indicates that consumer behavior differs for non-durable goods, durable goods, and services (Arndt, 1976; Heim, 2009; Morwitz & Schmittlein, 1992), there is no holistic study that has examined the BOP consumer segments in the context of non-durable goods, durable goods, and services.

Published BOP articles provide a picture, with wide variations in terms of BOP contexts and initiatives (Kolk et al., 2014; Mukherjee et al., 2020; Shivarajan & Srinivasan, 2013), and there is a need felt for segmentation of BOP populations (Kolk et al., 2014) to understand the heterogeneity in the market (Dahana et al., 2018). The objective of this paper is to fill these gaps in literature and segment the BOP market adopting a theoretical approach. This paper employs the theory of planned behavior (TPB), investigating the factors namely subjective norms, attitude, perceived behavioral control, and behavioral intention in identification of the BOP segments. Past research has successfully demonstrated the application of TPB variables to segment consumers, especially in

contexts where positive behavioral change is desirable (Schuster & Holtbrügge, 2012). This paper profiles the BOP market for non-durable goods, durable goods, and services. It is envisaged that the findings will provide an insight into the psychological and behavioral aspects of contemporary BOP consumer behavior. The quality of products and services available in BOP markets is generally low (Prahalad & Hart, 2002), and consumers are reluctant to use new products (Simanis & Duke, 2014). Changing consumer's behavior is a major obstacle faced by companies in the BOP market (Casselman et al., 2015; Simanis & Duke, 2014).

This study provides an understanding of the application of behavioral theories in BOP market segmentation in India and its usefulness in changing the behavior towards quality products and services. It is also important because the gap between the top and bottom of the pyramid is being squeezed and huge numbers of consumers are moving from the BOP to emerging middle class (Prahalad, 2019). Consequently, companies will need a long-term strategy to build brand loyalty in order to preserve BOP consumers after they have exited the BOP (Hodgson, 2017).

The remainder of this paper is structured as follows. The next section deals with the extant literature on BOP market segments and the variables being studied in the context of the BOP market. The details of the methodology are explained in *Methodology*. The findings are provided in *Data analysis and results*, and discussion of the findings is presented in *Discussion*.

Literature Review

Bottom of the Pyramid Market and Segments

Bottom of the pyramid market constitutes over four billion people who live on less than $2 per day, which is a 4–5 billion opportunity for companies (Prahalad, 2005). There exist salient differences between the customers of BOP and non-BOP markets in terms of their needs, perceptions, attitudes, and purchase behavior towards products and services (Barki & Parente, 2010; Beninger & Robson, 2015). Bottom of the pyramid is a huge market, and middle-class suppositions about the consumers can cause businesses to fail (Ahmed, 2013). It is unimaginable to reach such a colossal market with an identical product (Jebarajakirthy & Lobo, 2015; Jebarajakirthy et al., 2015; Kolk et al., 2014) as this market abounds with heterogeneity (Chikweche & Fletcher, 2012; Laporte, 2017; Rangan et al., 2011). Since segmentation is critical to understanding the BOP market (Dahana et al., 2018; Ahmed, 2013; Esposito et al., 2012), there is a clarion call for segmentation of this market (Kolk et al., 2014).

Prior literature has acknowledged the diversity within the BOP landscape, and it has proffered several BOP market segments that are largely based on demographic variables such as (Guesalaga & Marshall, 2008; Hammond et al., 2007; Vishwanathan et al., 2019) income (Barki & Parente, 2010; Gupta & Pirsch, 2014; Jaiswal & Gupta, 2015; Schuster & Holtbrügge, 2012; Subrahmanyan & Gomez-Arias, 2008), living standards (Hammond et al., 2007; Prahalad & Hart, 2002; Rangan et al., 2011), urban versus rural locations (Anderson et al., 2010; Chikweche et al., 2012; Ireland, 2008; Jayawickramarathna et al., 2019; Mathur et al., 2018), conflict zones (Anderson et al., 2010; Jebarajakirthy & Lobo, 2015), and family structure (Chikweche et al., 2012). Nonetheless, demographical segments do not accurately predict the consumer behavior because the markets are emerging as places where aspirational mindsets of the poor are being unlocked, and there is a paradigm shift in consumer hopes and aspirations (Sridharan et al., 2017).

Bottom of the Pyramid Psychographic-Behavioral Heterogeneity

Past research alludes to an array of BOP consumer's needs and cognitive dispositions. They are price-conscious (Jayawickramarathna et al., 2019; Gupta & Pirsch, 2015) and willing to buy anything that is inexpensive (Ahmed, 2013). Another perspective points out that BOP consumers are aspirational (Srivastava et al., 2020; Jayawickramarathna et al., 2019; Gupta & Pirsch, 2014; Gupta & Srivastav, 2016) and brand-conscious (Jaiswal & Gupta, 2015; Oodith & Parumasur, 2013; Prahalad, 2005; Yurdakul et al., 2017). They desire luxury products (Prahalad & Hart, 2002; Sivanathan & Pettit, 2010) to satisfy their higher-order needs (Subrahmanyan & Gomez-Arias, 2008) and to compensate for low self-esteem (Jaiswal & Gupta, 2015) or self-integrity (Sivanathan & Pettit, 2010).

Bottom of the pyramid consumers prefer customization (Shukla & Bairiganjan, 2011) and are willing to pay a premium for designer labels (Van Kempen, 2004). Some studies report that BOP consumers are brand loyal (Barki & Parente, 2010; Singh et al., 2017), while others contend that they switch brands (Lappeman et al., 2019; Pitta et al., 2008). Certain studies identify that the deprived are prone to conspicuous consumption (Jaikumar & Sarin, 2015; Khare, 2019; Van Kempen, 2007), while others observe that the incidence of conspicuous consumption is not uniform (Gupta & Srivastav, 2016). Since the BOP consumers differ in their lifestyles (Gollakota et al., 2010), preferences, attitudes, and behavior (Chikweche & Fletcher, 2012; Subrahmanyan & Gomez-Arias, 2008), the psychographic-behavioral segmentation is the desideratum to succeed in this market. The review of segmentation studies in the realm of BOP consumer behavior has been largely discussed through case studies, while empirical-based theory is distinctly lacking (Table 1).

Theoretical approach to segmentation

We follow a theory-based approach and employ psychometric variables to construct segments. Theory-based segmentation has been well demonstrated in consumer behavior research (Schuster & Holtbrügge, 2012). These theories of behavior can augment the value of segmentation by helping to identify variables that influence behavior (Schuster & Holtbrügge, 2012).

Theory of planned behavior has been used in the past to segment consumers in different contexts (Schuster & Holtbrügge, 2012).

Theory of Planned Behavior. Theory of planned behavior provides a parsimonious set of variables that explain behavior in different contexts (Ajzen, 1985, 1991; Tian et al., 2021), and its efficacy has been well ascertained in understanding consumer behavior in different domains: BOP (Hasan et al., 2019); fashion brand social networking websites online purchase public transport and alcohol consumption.

Theory of planned behavior postulates that behavior can be predicted by an individual's intention to perform a particular behavior (Ajzen, 1991; Paul & Shrivatava, 2016). In consumer research, purchase intentions are often used as an antecedent of purchase behavior (Morwitz & Schmittlein, 1992). Intentions are presumed to encapsulate the motivational factors that influence a behavior and so stronger the intention, the higher the probability of such behavior being performed (Ajzen, 1991). According to the TPB, behavioral intentions are influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 2001; Paul, Hermel & Shrivastava, 2017). (Figure 1).

Attitude is a salient variable of TPB that refers to the individual's predisposition to take action in a consistently favorable or unfavorable manner towards engaging in the target behavior (Fishbein &

Table 1. Review of BOP segmentation studies.

Study	Context	Identified variables	Consumer typologies	Nature of study
Dahana et al. (2018)	Indonesia	Educational aspirations, political interest, consumer expectation, perceived opportunity, perceived self-efficacy, income, age, household size, years of schooling, and home ownership	Segment 1, segment 2, segment 3, and segment 4	Survey
Uppari et al. (2018)	Rwanda	Monetary cost, inconvenience cost, blackout costs (liquidity constraints)	Inconvenience averse consumers, black out averse consumers	Modeling, case studies
Kang (2014)	Bangladesh, Pakistan, India, Sri Lanka, Thailand	Gender, age, education, occupation, income, marital status, literacy, access to facilities	Working husband; housewives; students with higher education; poorest of the poor	Survey
Ahmed (2013)	Bangladesh, Mexico	Financial status, education, health, social capital	Prime customers, hidden customers, non-customers	Case studies
Rangan et al. (2011)	General BOP market	Value creation	Consumers, co producers, clients	Case studies
Rangan et al. (2011)	General BOP market	Income	Low income; subsistence, extreme poverty	Case studies
Anderson et al., 2010	India, Nigeria, Kenya, Bangladesh, Uganda, Philippines, Congo, Iraq	Income, inadequate access to basic necessities, infrastructure, peace	Urban slums, deep rural areas and conflict zones	Interview, case studies
	General BOP market	Brand personality, brand image, brand reputation, brand trust	Rural, semi-urban	Case studies
Ireland, 2008	Venezuela	Marketing mix	Rural, urban	Case studies

Ajzen, 1974, 2011). Attitude plays a significant role in explaining BOP consumer behavior (Hasan et al., 2019; Jebarajakirthy et al., 2015; Kang, 2014).

Subjective norm (SN) indicate a person's perception of social pressure to perform or not to perform a given behavior (Ajzen, 2005; Fishbein & Ajzen, 2011). SN is an important parameter in BOP markets as social bonds and networks play a big role in shaping the behavior (Beninger & Robson, 2015; Chikweche and Fletcher, 2010, 2013; Kuo et al., 2016; Jebarajakirthy & Lobo, 2014, 2015; Pels & Sheth, 2019). The fear of social exclusion comes as a major motivation for consuming products (Mukherjee et al., 2020; Yurdakul et al., 2017).

Perceived Behavioral Control (PBC) is the perception of the individual to the level of which they are capable of, or have control over, in performing a target behavior (Fishbein & Ajzen, 2011). PBC has a potent influence on BOP consumer behavioral intention (Hasan et al., 2019; Jebarajakirthy et al., 2015; Kang, 2014).

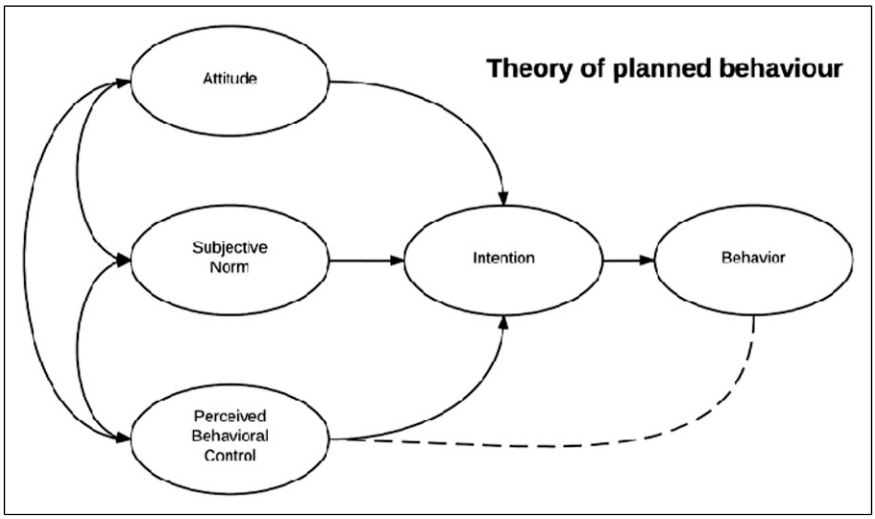


Figure 1. Theory of planned behavior.

Theory of planned behavior variables play a salient role in BOP consumer behavior (Hasan et al., 2019). This study employs TPB variables namely attitude, subjective norms, perceived behavioral control, and behavioral intention to segment the BOP consumers.

As the segmentation model requires the selection of the dependent variables and independent variables (Wind, 1978), this research employs the behavioral intention, attitude, SN, and PBC as segmentation variables. This study hypothesized the prevalence of psychographic-behavioral heterogeneity in the BOP market, and hence, this market could be segmented in the context of durable goods, non-durable goods, and services.

Methodology

Study context

This study was carried out in India as the country has the biggest BOP population in the world (Gupta & Pirsch, 2014; Gupta & Srivastav, 2016; Jaiswal & Gupta, 2015; Mukherjee et al., 2020; Paul & Mas, 2016). The country has remained in the spotlight in the BOP literature (Gupta & Pirsch, 2015; Hammond et al., 2007; Purohit et al., 2020). To select the most relevant samples from the target population, respondents living in slums in a north Indian state were approached with the help of local opinion leaders, identified by local non-profit organizations. Data were collected from identified habitats, and for a random sample, respondents from every third dwelling were contacted for the interview.

Three eligibility criteria were adopted to select the study respondents. First, the participants should have annual personal income below Rupees 100, 000 (approximately $ 4 per day). Secondly, they should own a mobile phone. Third, the participants should be aware about life insurance. The respondents were asked a screening question: "Do you know what is life insurance?" Only participants responding with affirmative answer (yes) were selected for the study. The eligibility criteria were chosen to minimize the sample biases since majority of the BOP consumers possess mobile phones (Beninger & Robson, 2015; Prahalad, 2019), and they are also generally aware about life

insurance due to concentrated efforts by Insurance Regulatory Development Authority (IRDA) in India to provide insurance to the BOP market. Data were collected through convenience sampling technique.

Sample

A total of 550 respondents were approached with the questionnaire out of which 55 respondents could not provide the information due to their inability to respond to some questions. Further, 31 questionnaires were not part of the analysis as they were incomplete. Thus, the effective sample size consisted of 464 respondents, which were used for further analysis. The sample characteristics are detailed in Table 2.

Survey Instrument

The survey instrument used was a structured questionnaire. Constructs under the study namely "attitude," SN, PBC, and purchase intention were measured using published scales (Taylor & Todd, 1995). The questionnaire was shown to three marketing professors for the content validity of the scales. The questionnaire was translated into Hindi. To ensure the reliability of the instrument, the schedule was retranslated into English. Due to low literacy rates among the BOP, the questionnaire

Table 2. Sample Characteristics.

Demographic variables		Frequency	Percent
Gender	Male	204	43.9
	Female	261	56.1
Marital status	Single	203	43.7
	Married	262	56.3
Age	Below 20	57	12.3
	21–40	119	25.6
	41–60	150	32.3
	61–80	97	20.9
	Above 80	42	9.0
Education	Illiterate	106	22.8
	Below tenth grade	195	41.9
	Under graduate	129	27.7
	Post-graduate	35	7.5
Annual income (Indian rupees)	Below 25,000	119	25.6
	25001–50,000	137	29.5
	50,001–75000	181	38.9
	75001–100,000	28	6.0
Occupation	Livestock and fishing	1	0.2
	Mining	14	3.0
	Manufacturing	14	3.0
	Construction	160	34.4
	Trade	8	1.7
	Transport	92	19.8
	Unemployed	32	6.9
	Domestic worker	144	31.0

was verbally administered by reading the items to the respondents and the responses were registered in these statements. This method has been fruitfully employed to study low to moderate literate BOP consumers (Gupta & Pirsch, 2015; Viswanathan et al., 2010).

The variables were measured on five-point Likert scales ranging from strongly disagree to strongly agree, for durable goods, non-durable goods, and services. The majority of the BOP consumers possess mobile phones (Beninger & Robson, 2015; Prahalad, 2019) due to affordable handset models provided by telecommunication companies (Weidner et al., 2010). Its usage has helped to overcome deficiencies and improve their lives (Fisk et al., 2016; Reynoso et al., 2015); hence, a mobile phone was used as a representative of durable goods. BOP consumers deliberate even for the non-durable purchases that are routine for other mainstream consumers, and the decision-making is far more complex due to constraints faced by BOP consumers (Chikweche et al., 2012). Moreover, BOP consumers spend a higher percentage of their income on non-durable goods (D'Andrea & Herrero, 2007; Lappeman et al., 2019; Pita et al., 2008) out of which a substantial amount is spent on cooking oil (Kumar et al., 2015). Therefore, refined oil was used as a representative for non-durable goods. Since the Insurance Regulatory Development Authority (IRDA) in India has focused on providing insurance to BOP market, insurance companies like Allianz first started their operations to provide insurance services to Indian BOP since 2004 (Schuster & Holtbrügge, 2012). Insurance is gradually emerging as an approach to reduce poverty (Casselman et al, 2015). Consequently, life insurance has been used as a representative of the services.

Data Analysis and Results

The data analysis involved two stages: exploratory factor analysis was performed using varimax rotation to check if the items related to each of the constructs under study loaded correctly on each of the factors, and generating factor scores. As in previous segmentation studies (Kabadayi & Paksoy, 2016; Mishra, 2015; Singh, 2018), the factor scores generated for each of the identified factors were employed for subsequent cluster analysis (Hair et al., 2009). Cluster analysis was executed using a two-step cluster analysis employing both hierarchical and non-hierarchical method. Hierarchical agglomerative technique and a non-hierarchical K-means method (Punj & Stewart, 1983) were used as both these methods employ a different procedure for creating clusters. The two methods were employed so as to gain the benefits of each method and to help offset the disadvantages of each method (Hair et al., 2009). In order to determine whether the variables across each clusters contributed to the cluster solution and if they were significantly different from each other, Analysis of variance (ANOVA) was performed after K-means cluster analysis. A chi-square test was used to understand the demographic differences among the identified segments. Data analysis technique employed was suitable for the objectives of this study, which hypothesized the existence of psychographic-behavioral heterogeneity in the BOP market.

Bottom of the Pyramid Market Segmentation: Durable Products

In the context of durable products, items related to psychographic constructs namely attitude, SN, PBC, and purchase intention for mobile phone were subjected to exploratory factor analysis. The items associated with each of the constructs loaded correctly on each of the factors indicating the discriminant and convergent validity of the scales (Table 3).

Factor scores generated through factor analysis were employed to cluster the consumers on various psychographic variables. The agglomeration schedule generated in the hierarchical clustering was used to determine the number of clusters in the given data. For this, the difference in

Table 3. Factor analysis: Durable goods.

Items	Factors			
	Perceived behavioral control	Subjective norm	Attitude	Purchase intention
Most people who are important to me would think that I should buy a mobile phone	.081	**.805**	−.003	.036
Most people who are important to me would think that I should use mobile phone	.095	**.854**	.062	-.060
The people who influence my decisions would think that I should buy a mobile phone	.239	**.795**	.026	.051
The people who influence my decisions would think that I should use the mobile phone	.023	**.688**	.170	.190
I have the resources, knowledge and ability to buy a mobile phone	**.709**	.135	.242	.093
I have the resources, knowledge and ability to operate mobile phone	**.706**	.179	.284	.027
I would be able to buy a phone	**.829**	.059	.167	.143
I would be able to operate a mobile	**.775**	.099	.185	.192
Intend to buy a mobile	.113	.102	.030	**.898**
I plan to use the mobile phone for communication	.352	.041	.356	**.649**
I like the idea of using mobile phone	.315	.260	**.630**	.232
Buying a mobile phone would be a wise idea	.223	.220	**.746**	.089
I think buying a mobile phone is a good idea	.257	.048	**.778**	.131
Using mobile phone to communicate is good idea	.155	−.124	**.790**	−.015
Variance (%)	**19.563**	**19.221**	**18.190**	**10.117**
Cronbach alpha	**0.820**	**0.815**	**0.606**	**0.820**

coefficients has been calculated at different stages of agglomeration schedule, and the coefficient differences suggested a 3-clustered solution. This number (3) was used as input for providing information on the number of clusters in the second stage of K-means clustering. The cluster analysis and ANOVA results for durable products are presented in Table 4.

As evident from Table 4, cluster 1 is represented by "Attitudinal Manu." Attitudinal Manu scores high on attitude but is not strongly influenced by her peers when she buys a mobile phone. She prefers to think of herself and is very less inclined to purchase a mobile phone. The members of this segment are mainly employed in construction, domestic work, or transport sector.

Cluster 2 is led by "Conformist Lily." Conformist Lily who is mainly employed in construction and domestic work does not have a very strong attitude to purchase a mobile phone. Though she perceives that she has the ability to purchase a mobile phone, she does not have a strong intention to purchase it. She may be of the view that purchase of a mobile phone is an extravagant expenditure, but peers may influence her to purchase a mobile phone

Impulsive Iva dominates the cluster 3. Impulsive Iva perceives that she does not have capability to purchase a mobile phone and has a negative attitude towards purchasing Though she is not influenced by peers, she has strong intention to purchase a mobile phone.

Table 4. Cluster Analysis & ANOVA: Durable Products.

	Cluster analysis			ANOVA	
Variables	Cluster 1 (*Attitudinal Manu*)	Cluster 2 (*Conformist Lily*)	Cluster 3 (*Impulsive Iva*)	F-value	Significance
Perceived behavioral control	−0.04580	0.20768	−0.20957	7.104	.001[a]
Subjective norm	−0.61810	1.00965	−0.58044	356.848	.000[a]
Purchase intention	−0.92599	0.12169	0.87409	246.336	.000[a]
Attitude	0.17277	0.09409	−0.30950	10.036	.000[a]
Segment size	153 (32.97%)	173 (37.29%)	138 (29.74%)		

[a]Significant at 1% level.

Table 5. Demographic characteristics of clusters: Durable goods.

Demographic variables		Cluster 1, %	Cluster 2, %	Cluster 3, %	$\chi 2$ Value	p value
Gender	Male	41.2	43.4	47.1	2.73	0.60
	Female	58.8	56.6	52.9		
Marital status	Married	54.2	50.9	65.2	11.05	0.09[a]
	Single	45.8	49.1	34.8		
Age	Below 20	11.1	11.6	14.5	7.83	0.45
	20<40	22.2	29.7	23.9		
	40<60	30.7	33.1	32.6		
	60<80	24.8	19.8	18.1		
	Above 80	11.1	5.8	10.9		
Education	Illiterate	23.5	27.2	16.7	6.24	0.40
	Matriculation	43.1	40.5	42.8		
	Graduation	25.5	26.6	31.2		
	Post-graduation	7.8	5.8	9.4		
Annual income (INR)	Below 25,000	25.5	24.3	27.5	3.33	0.91
	25001–50,000	30.7	28.3	29		
	50,001–75,000	37.9	40.5	38.4		
	75,001–100,000	5.9	6.9	5.1		
Occupation	Livestock and fishing	0	0.6	0.7	32.51	0.01[a]
	Mining	2.6	5.8	0		
	Manufacturing	2.0	4	2.9		
	Construction	31.4	35.8	36.2		
	Trade	0.7	1.2	3.6		
	Transport	27.4	19.1	11.6		
	Non-worker	6.5	4.6	10.1		
	Domestic worker	29.4	28.9	34.8		

[a]$p<0.01$ level.

The ANOVA results (Table 4) elucidate that the significant value for all the clusters is 0.000 ($p<0.01$), thus indicating that all the variables are significantly different from each other across three clusters at a confidence level of 99%. Table 5 depicts that the chi-square value for the demographic

parameters—education (0.397), age (0.450), marital status (0.087), income (0.912), and gender (0.604)—is higher than the significance level of 0.05. It indicates that the delineated segments differ to a larger extent on psychographic-behavioral factors. In the context of demographic factors except for occupation, the identified segments are not significantly different on other parameters.

Bottom of the Pyramid Market Segmentation: Non-durable Goods

In the context of non-durable goods, the constructs under study, that is, attitude, SN, PBC, and purchase intention of non-durable goods were subjected to exploratory factor analysis. The results indicate that items associated with each of the constructs loaded correctly on each of the factors demonstrating the discriminant and convergent validity of scales (Table 6).

Factor scores generated were subject to hierarchical and non-hierarchical clustering methods. The outcomes of the final cluster solutions are presented in Table 7. Cool Neelu who is mainly a construction worker represents the first cluster. Peers do not have any influence on Cool Neelu's decision to purchase refined oil. Even though she perceives that she cannot purchase refined oil, she has a positive attitude and intention to purchase refined oil. It reflects this cluster's positive attitude towards the use of non-durable products.

Table 6. Factor analysis: Non-durable goods.

	Factors			
Items	Subjective norm	Perceived behavioral control	Attitude	Purchase intention
Most people who are important to me would think that I should buy refined oil	.839	.189	−.030	−.011
Most people who are important to me would think that I should use refined oil to cook	.850	.240	−.066	−.034
The people who influence my decisions would think that I should buy refined oil	.799	.395	−.055	−.031
The people who influence my decision would think that I should use refined oil to cook	.751	.340	−.045	.034
I have resources, knowledge and ability to buy refined oil	.324	.777	.025	.025
I have the resources, knowledge and ability to use refined oil	.408	.695	−.026	.052
I would be able to buy refined oil	.200	.841	−.041	−.015
I would be able to use refined oil	.231	.821	−.009	−.053
I intend to buy refined oil	−.060	.018	.060	.899
I plan to use refined oil to cook all my food	.072	−.032	.471	.680
I like the idea of using refined oil	−.076	−.045	.726	.292
Buying refined oil would be a wise idea	−.034	.036	.806	.099
I think buying a refined oil is a good idea	-.006	−.010	.814	.133
Using refined oil to cook shows is a good idea	−.065	−.035	.772	−.097
Variance (%)	21.516	20.281	19.101	10.015
Cronbach alpha	0.887	0.859	0.606	0.802

Table 7. Cluster analysis & ANOVA: Non-durable goods.

	Cluster Analysis			ANOVA	
Variables	Cluster 1 (*Cool Neelu*)	Cluster 2 (*Normative Tina*)	Cluster 3 *(Sensible Vani*)	F-value	Significance
Subjective norm	−.65532	.90560	−.17044	178.08	.000[a]
Perceived behavioral control	−.29607	.25521	.08786	13.71	.000[a]
Purchase intention	.62325	.38322	−1.17067	359.85	.000[a]
Attitude	.37336	−.42519	−.00010	28.71	.000[a]
Segment size	**172 (37.07%)**	**151 (32.54%)**	**141(30.39%)**		

[a]Significant at 1% level.

The second cluster is represented by "Normative Tina" who is primarily a construction worker and between 20 to 60 years of age. Normative Tina though has negative attitude she values the views of social groupings and has a positive intention to purchase refined oil. Sensible Vani representing the third cluster is not influenced by social norms. She perceives that she does not have the capacity to purchase refined oil and has negative attitude and intention to purchase refined oil. The ANOVA results elucidate that the psychographic-behavioral factors differ considerably across the three segments of non-durable goods ($p<0.01$).

Table 8 depicts the significant value of chi-square test for the demographic factors like gender (0.634), age (0.217), marital status (0.225), income (0.440), and occupation (0.064). It indicates that the segments identified in the context of non-durable goods are not markedly different on demographic parameters except for education.

Bottom of the Pyramid Market Segmentation: Financial Services

In the context of financial products, the attributes associated with psychographic-behavioral constructs were subjected to exploratory factor analysis and the items associated with each of the constructs loaded accurately on each of the factors denoting the discriminant and convergent validity of the scales (Table 9).

The clustering results (Table 10) demonstrate the emergence of four segments in the context of services. Confident Veena perceives that she has the ability to purchase a life insurance policy. Though the group has negative attitude towards life insurance, its purchase is largely influenced by peers.

Hesitant Renu though having a positive attitude but do not have intention to purchase an insurance policy. Though the group is influenced by social norms, she does not believe that she has the capacity to purchase a life insurance policy. Peers do not influence Individualist Kamal, but she has a positive attitude and intention to purchase the life insurance policy. Impulsive Balu is married and primarily a domestic or construction worker. Peers' opinion does not matter to him. Though he has a negative attitude towards purchasing a life insurance policy but he has positive purchase intention.

ANOVA results demonstrate that the four clusters are significantly different from each other on the psychographic-behavioral parameters ($p<0.01$). The significant value for all the variables is 0.000 ($p<0.01$).

The statistics depicted in the Table 11 indicate the significant value of chi-square test for the demographic parameters namely age (0.128), marital status (0.183), income (0.567), education

Table 8. Demographic characteristics of clusters: Non-durable goods.

Demographic Variables		Cluster 1, %	Cluster 2, %	Cluster 3, %	χ^2 Value	p<
Gender	Male	45.9	42.4	42.6	2.56	0.63
	Female	54.1	57.6	57.4		
Marital status	Unmarried	49.4	41.7	39	8.18	0.23
	Married	50.6	58.3	61		
Age	Below 20	12.2	16.7	7.8	10.74	0.28
	20–40	23.8	27.3	25.5		
	40–60	29.1	34	34		
	60–80	24.4	15.3	22.7		
	Above 80	10.5	6.7	9.9		
Education	Illiterate	22.7	27.8	17.7	15.07	0.02*
	Matriculation	44.2	31.1	51.1		
	Graduation	23.8	33.1	26.2		
	Post-graduation	9.3	7.9	5		
Annual income (INR)	Below 25000	23.8, %	29.1, %	24.1, %	7.93	0.44
	25001–50,000	32	24.5	31.2		
	50,001–75,000	38.4	42.4	36.2		
	75,001–100000	5.8	4.7	8.5		
Occupation	Livestock and fishing	0.0	1.4	0.0	25.35	0.06*
	Mining	3.5	1.3	4.3		
	Manufacturing	2.3	4.0	2.8		
	Construction	32	40.4	31.2		
	Trade	4.1	0.7	0.0		
	Transport	19.2	14.6	25.5		
	Non-worker	7.6	4.6	8.5		
	Domestic worker	31.4	33.1	27.7		

[a]$p<.01$.

(0.238), gender (0.277), and occupation (0.015). The results indicate that the clusters in the context of services are not substantially different from each other except for occupation ($p<0.05$).

Discussion

The study demonstrates that BOP segments differ significantly on TPB variables in the context of durable goods, non-durable goods, and services. In the durable goods perspective, the results display the existence of three segments. Conformist Lily scored very high on subjective norms reflecting importance for networks and high normative conformity in this group. Even so, it is average in its PBC, attitude, and purchase intention towards durable goods. The fear of social exclusion by BOP comes as a major motivation for consuming durable products (Yurdakul et al., 2017); therefore, to target this cluster, the durable products should be promoted as a product with a wider acceptability within the community. Such consumers may be motivated by compensatory consumption to make up for their low social status for a positive behavioral change towards durable goods (Dahana et al., 2018; Van Kempen, 2007).

Consumers in this segment can be motivated by advertisements that depict social settings and social acceptance. Communication campaigns for durable goods need to demonstrate how the

Table 9. Factor Analysis: Financial Services.

Items	Factors			
	Subjective norm	Perceived behavioral control	Attitude	Purchase intention
Most people who are important to me would think that I should buy life insurance policy	**0.834**	−0.013	0.030	0.038
Most people who are important to me would think that I should use life insurance policy	**0.844**	−0.045	0.017	0.007
The people who influence my decisions would think that I should buy a life insurance policy	**0.871**	−0.040	0.06	0.014
The people who influence my decisions would think that I should use the life insurance policy	**0.799**	0.018	0.045	−0.006
I have resources, knowledge and ability to buy a life insurance policy	0.016	**0.766**	0.271	−0.002
I have resources, knowledge and ability to use a life insurance policy	−0.115	**0.699**	0.291	0.145
I have would be able to buy a life insurance policy	0.16	**0.802**	0.139	0.253
I would be able to use a life insurance policy	−0.028	**0.759**	0.176	0.225
I intend to buy a life insurance policy within next 3 months	0.018	0.260	0.235	**0.919**
I plan to use the life insurance policy to safeguard the future of my family	0.036	0.237	0.216	**0.924**
I like the idea of using a life insurance policy	0.049	0.372	**0.630**	0.213
Buying a life insurance policy would be a wise idea	−0.024	0.250	**0.745**	0.159
Buying a life insurance policy is good idea	0.041	0.243	**0.780**	0.170
Using a life insurance to safeguard the future of family is a good idea	0.057	0.372	**0.786**	0.052
Variance (%)	**20.206**	**19.237**	**17.737**	**13.840**
Cronbach alpha	**0.886**	**0.858**	**0.606**	**0.759**

Table 10. Cluster Analysis & ANOVA: Financial services.

Variables	Cluster Analysis				ANOVA	
	Cluster 1 (*Confident Vani*)	Cluster 2 (*Hesitant Renu*)	Cluster 3 (*Individualistic Kamal*)	Cluster 4 (*Impulsive Balu*)	F-value	Significance
Perceived behavioral control	.72564	−.77920	.28639	−.73415	122.55	.000[a]
Subjective norm	.51489	.28932	−.52748	−.72950	56.51	.000[a]
Purchase intention	.09311	−.99887	.41662	.68538	90.91	.000[a]
Attitude	−.39663	.23140	.99511	−.91915	123.98	.000[a]
Segment size	**160 (34.48%)**	**115 (24.79%)**	**110 (23.71%)**	**79 (17.02%)**		

[a]Significant at 1% level.

Table 11. Demographic characteristics of clusters: Financial Services.

Demographic variables		Cluster 1, %	Cluster 2, %	Cluster 3, %	Cluster 4, %	χ^2 Value	p<
Gender	Male	41.2	42.6	40.9	54.4	7.50	0.28
	Female	58.8	57.4	59.1	45.6		
Marital status	Unmarried	48.8	45.2	40.9	35.5	12.58	0.18
	Married	51.2	54.8	59.1	64.5		
Age	Below 20	15.6	4.4	12.7	16.5	17.61	0.13
	20–40	25.6	29.8	22.7	22.8		
	40–60	31.3	34.2	32.7	30.4		
	60–80	21.3	24.6	20.9	15.2		
	Above 80	6.3	7	10.9	15.2		
Education	Illiterate	25.6	23.5	26.4	11.4	11.58	0.24
	Matriculation	44.4	42.6	37.3	43		
	Graduation	22.5	27.8	30	34.2		
	Post-graduation	7.5	6.1	6.4	11.4		
Annual income (INR)	Below 25,000	21.2	27.8	24.5	32.9	10.56	0.57
	25,001–50,000	30	26.1	31.8	29.1		
	50,001–75,000	42.5	38.3	39.1	32.9		
	75001–100,000	6.3	7.8	4.5	5.1		
Occupation	Livestock and fishing	0.0	0.9	0.0	1.3	41.40	0.06[a]
	Mining	1.9	7	2.7	0		
	Manufacturing	3.8	1.7	4.5	1.3		
	Construction	33.1	34.8	37.3	32.9		
	Trade	0.6	0.0	3.6	3.8		
	Transport	21.9	23.5	19.1	10		
	Non-worker	4.4	7	6.4	12.7		
	Domestic worker	34.4	25.2	26.4	38		

[a]$p<0.1$.

products could augment the social status of this segment. More than 47% of this segment is in the high-income bracket, so this segment consists of the would-be emerging middle class. This segment is a prospective opportunity for companies to target the aspirational consumers and build them into a group of enduring brand loyalists. Tackling social issues with innovations could be the strategy of choice to change the behavioral intention towards durable goods.

The second largest segment for durable goods is Attitudinal Manu, who have a positive attitude towards consumer durables but is very low on purchase intention, SN, and PBC. Though attitude plays a salient role (Jebarajakirthy et al., 2015), self-efficacy of this group has to be amplified so that they can opt for durable goods. This is the group where the real BOP opportunity lies for the companies wherein the group members may be empowered through capacity building, co-creation, trust, and symbiotic relationships (Mena et al., 2010). The unique selling proposition of affordability and quality may be adopted for this segment to supplement its self-efficacy and augment its PBC. Bottom of the pyramid consumers cope with low self-efficacy by leveraging their social networks (Singh et al., 2017); hence, consumers need to be made aware about social attributes of products (Mena et al., 2010). Companies need to equip the BOP consumers with skills and infrastructure to make them self-reliant (Chmielewski et al., 2018) so as to instill behavioral change towards durable

goods. Businesses' efforts in market creation (Perrot, 2017) and consumer empowerment will help consumers gain social status and will help companies gain legitimacy and contribute to the stability of societies (Mena et al., 2010).

In the third segment, Impulsive Iva scores low on psychographic components but is high on purchase intention. This group cares the least about SN, has a negative attitude and perceived behavioral control. This segment comprises of large number of graduates, and it could serve as potential business partners for the companies. Graduates within the community enjoy considerable respect in the clusters. Hence, they could be hired and employed as opinion leaders for promotion of the durable products.

In the non-durable goods section, three segments were delineated. The largest segment is represented by Cool Neelu who scores high on attitude and purchase intention while she has negative scores for SN and PBC. It implies that this segment does not care about normative beliefs, while purchasing the non-durable goods even when they were low on perceived self-efficacy, suggesting that this group regards the non-durable goods as necessities in their life.

Normative Tina symbolizes the second largest group, which has a very high propensity to cater to normative beliefs as they may purchase non-durable goods even when they have a negative attitude. Non-durable brands may be promoted and be employed as rallying points for this segment to coalesce around them. The negative attitude of this group can be altered through BOP group-based networks and promotion. Supply chains integrated in BOP social networks (Khalid & Seuring, 2019; Singh et al., 2014) can further accelerate the product acceptance. The third group is represented by Sensible Vani who has higher self-efficacy but does not have a positive attitude or purchase intention towards non-durables. This group consists of a large number of illiterates and matriculates suggesting that this group is comparatively less educated as compared to the others. The segment might look askance at the consumption of non-durable goods. Meaning, this group would be high on savings and could be prospective consumers for non-durable goods if they are educated about benefits of buying quality non-durables. Their doubts can be allayed by company representatives and through advertisements depicting the benefits of purchasing quality brands.

In the services perspective, four segments have surfaced highlighting psychographic-behavioral dissimilarities among the BOP consumers. The largest cluster is represented by Confident Veenu who scores high on PBC and SN. Although they have a negative attitude towards availing services, they do have a low but positive intention to procure more services, owing to normative influence and high self-efficacy. Even though 55% of this segment is employed in high-risk jobs like construction and transport, they still have negative attitude towards services like life insurance, which reflects the ignorance of this segment. Services with co-creative components for BOP need to be designed (Ben Letaifa & Reynoso, 2015; Fisk et al., 2016) for this segment. Companies need to develop entrepreneurial capability and foster social networks for sustainable service ecosystems (Reynoso et al., 2015) to satisfy basic needs and improve the well-being of BOP (Reynoso & Cabrera, 2019).

It is essential that companies highlight the benefits of service and educate this segment about the advantages of availing any service. Opinion leaders within the community may be more helpful in convincing this segment that they could be hired by service companies to promote different products.

Hesitant Renu representing the second segment scores low on PBC and purchase intention. She is moderately influenced by SN and have a positive attitude towards services. This reflects that even though this group has a positive attitude towards services, they do not intend to purchase services due to low PBC. Bottom of the pyramid research should focus on developing inclusive models that aim at the integration of resources among consumers, community, and service companies (Gebauer & Reynoso, 2013) so as to escalate PBC of such groups and to transform the purchase intention of services. For example, companies may develop low premium insurance products to augment their

PBC and purchase of life insurance. Companies can enable opportunities by offering choices and relieve suffering by fostering happiness (Fisk et al., 2018).

Individualist Kamal is indifferent towards the SN. She has very strong attitudes and purchase intentions towards services. This group is high on individualism implying the group perception of distinctive self-image. Services to this group may be promoted through advertisements that motivate customers to imagine congruence between their self-image and catering to their self-esteem. Impulsive Balu scores negatively high on PBC, SN, and attitude towards services, but he has strong purchase intentions towards services, suggesting that they could be ideal consumers for services. This group comprises mainly of construction and domestic workers. Impulsive behavior could be attributed to diminution of self-operating strength caused by exertion that could result in unhappy and unsatisfied consumers (Baumeister, 2002). Even though the impulsiveness of this group could help in companies' profitability, it is imperative that this vulnerable section is educated about the benefits of services in order to reduce post-purchase dissonance.

Conclusion

This study recognizes the profound heterogeneity in the BOP market. By delineating theory-based segments, we provide evidence for the divergent cognitive and behavioral penchants of the BOP consumers. In each of the product categories, identification of the unique characteristics and needs of the consumer segments have been unfolding for companies. The consumers in various segments can be reached to generate the desired behavioral change. Some segments may be approached through local relationships and networks. Specific clusters could be best influenced through community opinion leaders. Similarly, companies can cater to certain customers' aspirations and stimulate compensatory consumption. These segments are reasonably attractive and could deliver an enduring and inclusive growth opportunity for the companies.

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