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Impact of Consumer-Centric Marketing-Mix on Purchase Behavior of Non-Core Food Items: An Empirical Study of Urban Subsistence Marketplace

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Abstract - **The objective of this study is to identify bundle of food items which are non-essential in context of poor consumers and analyze the consumption spending on these non- core food items. This study yields an impact of consumer centric marketing-mix for these non-essential or non-core food items on food purchase decision for urban bottom of the pyramid (bop) consumers.**

Based on the a survey of six hundred respondents this study was conducted in six selected slum areas of delhi. Thereby, based on the exploratory factor analysis existing scales of marketing-mix was refined for the non-essential food items leading to a regression model for determining the impact of marketing-mix on food purchase behavior at urban subsistence marketplace.

Non-core food category includes the Beverages, Refreshment and Packaged processed food. Key finding emerged as redefined marketing-mix, comprised of four factors namely Expected Product, Convenience, Price Insensitive and Non-Social Sources, and had significant and positive influence on BOP purchase behavior of non-core food items.

For managers, this research suggests a set of guidelines for designing marketing-mix for non-core food items in consumer sensitive manner.

This study will lead to increased understanding about consumption behavior of subsistence marketplace thereby allowing various marketers to efficiently engage consumers which may lead to inculcating a long forgotten market into the mainstream economy and improving the standard of their living by providing significant choices.

This paper makes an original contribution in direction of revival of existing western marketing-mix based on the BOP consumer survey. Given the absence of empirical and quantitative studies in BOP segment, this study marks a stepping stone towards obtaining generalized marketing-mix model.

The food items consumed by BOP market is further pronged into two categories- Core and Non-core Food items. This study is limited to redefining the marketing-mix elements for core or essential food items. This study was conducted in densely populated urban slum areas of Delhi.

Keywords **: Subsistence Marketplace or Bottom of the Pyramid (BOP), BOP advocates, Core Food Items, Non-Core Food items, Marketing- Mix, Urban subsistence or BOP Consumer**

I. INTRODUCTION

Subsistence Marketplace or Bottom of the Pyramid defies the well- established principles, concepts and paradigms of the western world. This market has always been a precarious market for the western players who entered the subsistence landscape with an objective of encashing short term fortune proclaimed by its advocates. Bottom of the pyramid necessarily represents low- income consumers with significant unmet needs (Hammond et al., 2007). Further, these consumers face daily challenges imposed as an aftermath of dwelling in subsistence settings (Viswanathan et al., 2008). Major challenges include lack or absence of water and sanitation services, electricity, and basic amenities (Hammond et al., 2007) which are taken for granted in developed nations. Subsistence consumers typically spend the majority of their income on fulfilling the daily necessities such as food and clothing. They live in substandard housing and have limited or no education (Prahalad, 2004). These impediments make almost impossible for the firm to enter this peculiar marketplace. As a result, subsistence or BOP consumers are wrongfully excluded from the market and are poorly integrated into formal economy (Jaiswal, 2007). There is a paramount dependence on informal sector to meet their needs. This informal sector, with prevalent inefficiencies, represents a high cost ecosystem and pressurize subsistence consumers to pay higher prices for almost all goods and services (Prahalad & Hart 2002a; Prahalad & Hammond 2002b; Hammond et al. 2007). Rather poor consumers pay higher prices per unit than their non-poor counter parts, thereby bearing poverty penalty. Poverty penalty or Double Jeopardy is attributable to imperfections of informal market. When comparison was undertaken between the cost of goods and services between Dharavi, slum of more than a million people in the heart of Mumbai, India, with the same products and services in Warden Road, an upper-class Mumbai suburb highlighted a ground breaking fact that "poverty premium" between 20% and 5300% was paid by slum dwellers (Prahalad and Hammond, 2002).

These excessive poverty premiums clearly indicate a desperate consumer market need to be incorporated into a larger, more formal economy where free market principles or market based economy would lead to direct benefits for them. It is also vital to note the consensus that emphasis should be on sustainable market development and not on short term exploitation when one form of market abuse gets replaces by another.

Most of the firms entered this market with westernized product offerings at the lesser price on the assumption that it is a homogeneous market with the same set of need structure like western counterparts. This led to massive failure of marketing efforts to reach subsistence marketplace. For succeeding, this market requires a thorough understanding of the targeted consumers and their behavior; thereby redefining the western-concept dominated marketing-mix.

Although there is a dire need to understand subsistence consumer characteristics and behaviour still only few research papers published till 2000. Maximum research papers were published during 2006-2011, which implies increased attention to the BOP concept by academicians since 2006 (Esposito et al., 2014). However, these researchers used ethnographic observations, in-depth interview and group discussions to understand subsistence marketplace. This segment still devoid of quantitative research (Esposito et al., 2014) to obtain generalized marketing-mix model; developed and tested through quantitative technique. Since there is lack of quantitative data oriented studies, seeking deliberation, current research focuses on quantitative research and building an integrated theoretical framework. Given the absence of empirical and quantitative studies in BOP segment, this study marks a stepping stone towards obtaining generalized marketing-mix model. This research work suggests an integrated model for successful marketing to this market. BOP literature provides marketing strategies adopted by firms without understanding the ground realities from the perspective of BOP consumers.

II. REVIEW OF LITERATURE AND THEORETICAL FRAMEWORK

Purchase decisions of subsistence consumer can be affected by various factors; however, this study considers the influence of marketing-mix elements in non-core food purchases. This section reviews the existing literature available on urban subsistence consumer, food purchase at bottom of the pyramid followed by marketing-mix elements in food retailing.

A. Urban Subsistence Marketplace

There are different views on empirically defining the subsistence marketplace or the BOP. Various scholars have tried to define and classify this market (Prahalad and Hart 2002a; Banerjee and Duflo, 2006; Hammond, Kramer et al, 2007; Viswanathan et al. 2008). The four main classifications are the World Bank global income classification modified by Rangan, Quelch et al (2007), the Hart (2002) classification, the Hammond, Kramer et al (2007) classification and Viswanathan et al classification (2010). The emergence of BOP concept brought various critics into the picture insisting on specific criteria for defining BOP consumers. However, researchers who consider BOP market comprising of the consumer with latent needs (Gupta et al. 2015 and Vishwanathan et al, 2010) stressed on use of socio-economic based definition. Thus, keeping the socio-economic realities in mind subsistence marketplace, for the current research, can be defined as

a. Subsistence Marketplace consists of Household earning less than Rs. 8000 per month (Gupta et al. 2015 and Vishwanathan et al, 2010).
b. Live in rural villages or urban slums and shantytowns
c. Lack of water supply, sanitation services, electricity, and basic health care, no access to formal financial services (Hammond et at., 2007).
d. There exists one-to-one interaction between small neighborhood storeowners and local consumers, strong social relationship (Viswanathan et al., 2008).
e. The BOP consumers' mainly satisfy basic needs such as food, water, shelter. According to the WRI's report (2007), out of $5 trillion market potential of the BOP segment, food accounts $2895 billion of purchases.
f. Limited or no access to formal educations.
g. Difficult to reach via conventional distribution and communications channels

B. Food market at world's BOP

According to WRI report (2007), major categories on which BOP consumers spend their income are (Figure 1) – Food (58%), Energy (9%), Housing (7%), Transportation (4%), Health (3%), ICT (1%) and Water (1%). Thus, BOP segment spends a substantial part of their meagre income on food consumption. On the basis of available data, total BOP household food market (36 countries) in Africa, Asia, Eastern Europe, and Latin American and the Caribbean had an estimated worth of $2.89 trillion. When segregated on the basis of region, food market share of Asia, Africa, Latin America and Eastern Europe stood at 89%, 80%, 51% and 50% respectively. Asian BOP food market is largest with a concentration of 1.49 billion people representing worth of $1.1 trillion. Further results of this report, suggested that as incomes rise, household spending on food declines.

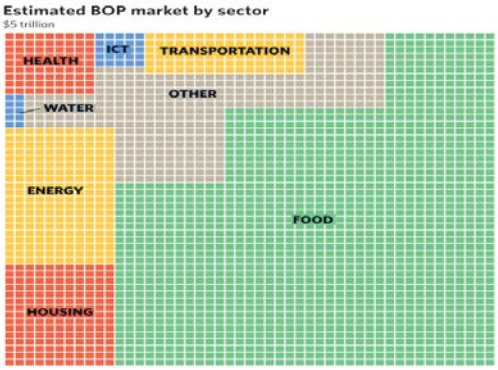

Fig.1 Major categories of income allocation at BOP (Source: Hammond *et al.*, 2007)

In India, National Sample Survey Office (NSSO) conducts nationwide quinquennial surveys on Monthly Per Capita Consumer Expenditure (MPCE). Average MPCE for entire India in 2011-12 was estimated at approximately Rs.1430 in rural India and Rs.2630 in urban India. The poorest 5% of India's rural and urban population had an average MPCE of Rs.521 and Rs 700 respectively. The top 5% of the rural population, ranked by MPCE, had an average MPCE of Rs.4481 – about 8.6 times that of the bottom 5%. The top 5% of the urban population had an average MPCE of Rs. 10,280.This highlights an extreme disparity in consumption spending across various fractile classes (Fractile classes of the population are "0-5%", "5-10%", "10-20%", etc) in India.

Almost the same situation prevails in Delhi whereby average MPCE was estimated at approximately Rs2762.11in rural Delhi and Rs. 3298.47 in urban Delhi. The poorest 5% of Delhi's rural and urban population had an average MPCE of Rs. 1071.42 and Rs 978.05 respectively. The top 5% of the rural and urban population, ranked by MPCE, had an average MPCE of Rs. 6577.31 and Rs.11323.77 respectively. This shows the disparity between the bottom and top 5% of MPCE is more severe in urban parts of Delhi than rural.

Consumption expenditure on food items constitutes 53% of average MPCE in rural India in comparison to 42% food consumption expenditure by urban households. The share of food shrunk over the 18-year period since 1993-94 from 63.2% to 48.6% (a decline of about 23%) in the rural sector and from 54.7% to 38.5% (a decline of nearly 30%) in the urban sector. Over the 7-year period since 2004-05, the share of food has fallen by about 12% in rural India and about 9% in urban India. Most food groups have suffered a decline in share over the 18-year period. The decline is steepest for cereals, the share of which has halved for rural India and shrunk by 48% in urban India.

According to the 68th round of NSSO survey, Delhi accounts for 39% of the total MPCE on food items amounting an average MPCE of Rs 1461.54. Since food purchase dominates the consumption spending of BOP segment, therefore, the current research study focuses on the food market.

C. Marketing-Mix for food retailing

McCarthy (1964) summarized it into the four Ps frameworks and defined the marketing mix as a combination of all of the four factors, namely product, price, promotion and place. Marketing scholars identify marketing-mix as controllable parameter that firms use to influence consumer buying process (Kotler, 2010). Since the current study involves food retailing thus literature relates to marketing-mix in food and retailing. In the context of food retailing, studies reveal that conventional marketing mix elements such as product's quality and package, price, store location and promotional tools shape consumer buying behaviour (Akbay & Jones, 2005; Nevin & Suzan Seren, 2010; Spinks & Bose, 2002). Each element of the marketing- mix is reviewed in the context of food purchase behaviour so as to determine the adequacy of the current state of marketing-mix framework and the modifications required to accommodate BOP consumer's needs. Thus based on the review of literature of four Ps of Marketing-mix in context food market can be operationalized as given in Table 1.

III. RESEARCH CONTEXT

The current research study defines subsistence marketplace as households earning less than Rs. 8000 per month, clustered in the area with lack of civic infrastructure. Thus, urban slums and shantytowns, clustered with household earning fewer than Rs 8000 considered as to be the sampling frame. In a report titled "The Challenge of Slums", the United Nations Human Settlements Program (UN-HABITAT 2003) reported that one billion people — approximately one third of the world's urban dwellers and a sixth of all humanity live in slums. India alone constitutes about one- third of the global slum population. This research study was conducted in the high density slums of Delhi (Capital of India). Delhi comprised of 675 identified Slum clusters in ten zone (Delhi Urban Shelter Improvement Board 2015). There is an absence of sample frame because BOP market or subsistence marketplace or urban slums are not properly mapped by the govt. and NGO. Further, they do not hold legal title or deed to their assets (e.g., dwellings, farms, businesses) making it difficult to formalise these colonies. Also, heavy dependence on informal economy hinders in accurately determining their income. Further in order to understand the food offering at subsistence marketplace, report by National Sample Survey Office (NSSO) on Household Consumer Expenditure is analysed. NSSO report considers more than 250 food items for consumption. The item wise data on household food consumption collected in the NSS survey are grouped into nine broad food categories. Unfortunately, BOP segment thrives under the condition of limited income and restricted market choices. Therefore, for this research, the food items considered can pronge into two broad categories-Cores Food Items and Non-core Food Items.

TABLE I OPERATIONALIZATION OF MARKETING-MIX ELEMENTS IN CONTEXT OF FOOD RETAILING

Marketing Mix	Construct Operationalization	Authors
I. Product		
PRD1	i).Varieties/ Brands offered	Spinks & Bose, 2002; Nevin & Suzan, 2010; ,Nguyen et al. 2015.
PRD2	ii).Degree of essentiality	
PRD3	iii).Reasonable quality offered	
PRD4	iv). Freshness of food items	
PRD5	v).Availability in Small quantity/ Sachets	
PRD6	vi). Nutritional and health content provided	
PRD7	vii).Accurate measurement of quantity	
PRD8	viii). Packaging of product	
PRD9	ix). Food label/ Safety Mark	
PRD10	x). Availability of product	
PRD11	xi). Taste of the product	
II. Price		
PRC1	i). List Price (MRP)	Viswanathan et al. 2010, Chikweche & Fletcher 2010.
PRC2	ii).Price charged less than List price	
PRC3	iii).Price per unit charged when bought product in small quantity	
PRC4	iv). Discount offered	
PRC5	v). Availability of product on credit	
III. Place		
PLC1	i). Nearness of the shop/Less Travelling	Viswanathan et al. 2010, Chikweche & Fletcher 2010
PLC2	ii). Credit Facility	
PLC3	iii).Courteous Treatment	
PLC4	iv).Standard price and quality	
PLC5	v) Product Knowledge of shopkeeper	
PLC6	vi). Trust/ Familiar local Shopkeeper	
PLC7	vii). Wider Choice	
PLC8	viii). Easy Return Policy of the shopkeeper	
PLC9	ix).Bargaining opportunities	
IV. Promotion		
PRM1	i). Packaging	Viswanathan et al. 2010, Chikweche & Fletcher 2010 Viswanathan et al. 2010, Chikweche & Fletcher 2010
PRM2	ii). Shopkeeper	
PRM3	iii). Family/friends	
PRM4	iv). Groups	
PRM5	v). Neighbours	
PRM6	vi). Market interaction	
PRM7	vii). Bulletin boards	
PRM8	viii). Newspaper	
PRM9	ix). TV	
PRM10	x). Radio	
PRM11	xi). Internet	
PRM12	xii). Community Leaders	
PRM13	xiii). NGOs	
PRM14	xiv). Government	

A. Core Food Items

It includes food items which form a staple diet for bottom fractile classes in India. Core items are imperative and easily accessible to this market or made easily accessible by governmental initiatives as considered being essential for living. In India consumption of rice, wheat and sugar are made available to below poverty line consumers at subsidised rate through Fair price shops, known as Public Distribution System. These shops may be owned by the government, local government, a government undertaking, the proprietor of a firm, co-operatives or private persons (individually or jointly) or other bodies like club , trust. Further Core items are generic in nature and not much brand choices offered for these to BOP or subsistence market segment.

B.Non-core food items

This category includes the components infused by NSSO 68th round under the head of "beverages, refreshment and packaged processed food". Beverages include tea, coffee, mineral water, soft drinks, fruit juice soda water, and other beverages such as cocoa. Processed food lists twelve kinds of processed food divided into two categories: under "served" those served in restaurants, dhabas, snack bars, etc., and "packaged those which are usually taken to the home and consumed. The "served processed food" is excluded from the research study. The 'Packaged processed food' consists of 'prepared sweets, cake, and pastry', 'Biscuits, chocolates', 'Papad, Bhujia, Namkeen, Mixture, chanachur', 'Chips', 'Pickles, sauce, jam, jelly', and Other packaged processed food.

This research study is limited to understanding the purchase behavior for non-core food items. This study was conducted in densely populated urban slum areas of Delhi of households earning less than Rs. 8000 per month.

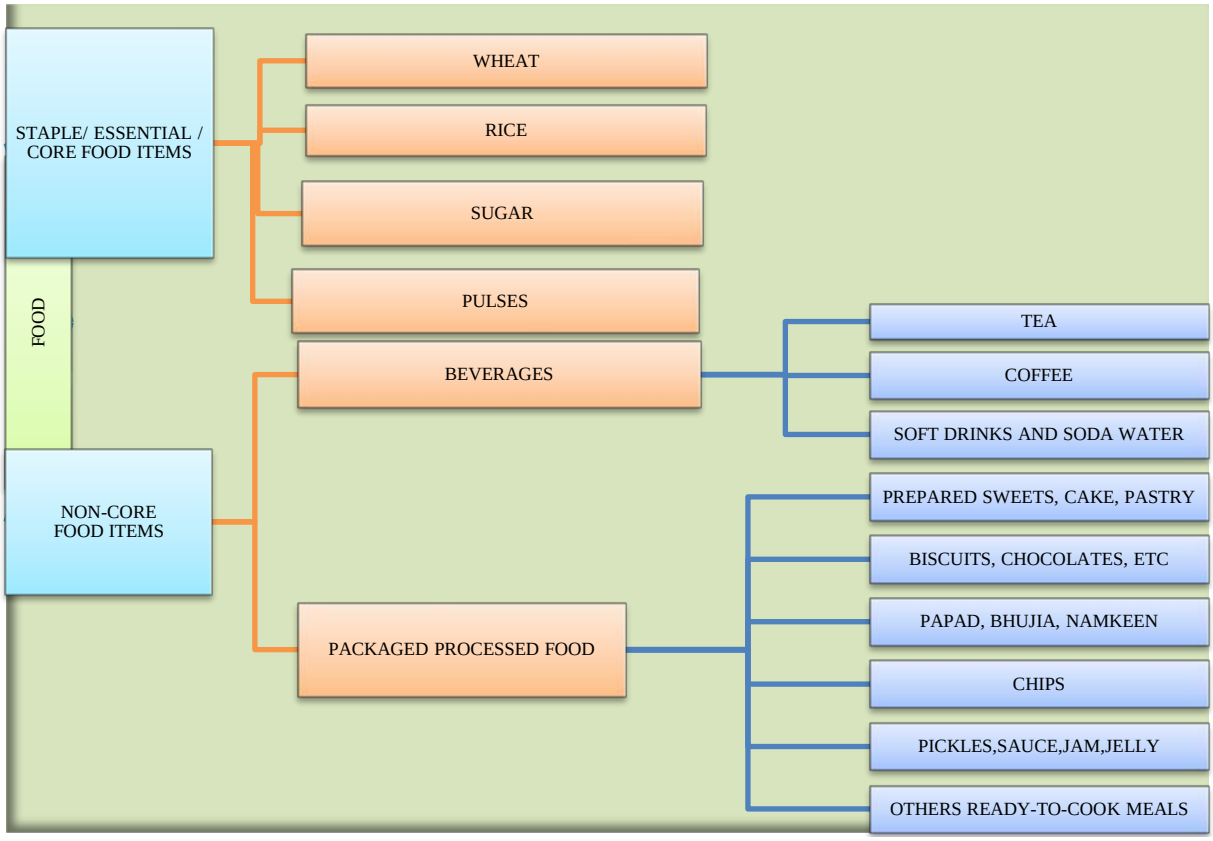

Fig.2 Bifurcation of food items into – Core and non- core food items

IV. RESEARCH QUESTIONS AND RESEARCH OBJECTIVES

On the basis of research gaps found in literature for BOP market, the current study answers following research questions

RQ1. What is socio-demographic profile of BOP consumers (gender, age, education and income) in six highly dense slum areas of Delhi?

RQ2. What is the actual purchase behaviour or consumption spending of core and non-core food items at BOP in slum area of Delhi?

RQ3. What is the redefined marketing- mix for core and non-core food items at the BOP market?

RQ4. What is the impact of marketing mix elements for non-core food item on consumption in slum areas of Delhi?

Because of differences in circumstances faced by BOP, consumers' decision making might not necessarily follow the process outlined by previously established western models. Thus, the objective of this study is "redefining the marketing mix at the BOP." Thereby, this research study determines the nature and degree of impact of consumer-centric marketing-mix elements on the actual food purchase behaviour of BOP consumer.

V. DEVELOPMENT OF HYPOTHESIS AND RESEARCH FRAMEWORK

Marketing- mix is considered as an integral factor for defining purchase behaviour. For the current research study, main objective is to redefine the marketing-mix, thus marketing mix is considered as an independent variable, whereby marketing-mix is defined based on McCarthy (1964)'s Conceptualisation of 4Ps.

A. Product and Purchase Behavior

Product quality shapes retailers' reputation and influences consumer buying decision at stores (Pan& Zinkhan, 2006). Chaudhuri and Ligas (2009) suggest that product value is positively correlated to purchase behavior and customer loyalty in the retail sector. Consumers evaluate various dimensions of food products to make their purchase decision. Hence the following hypothesis has been developed:

H1: *Product factor has a positive influence on consumer buying behavior of non-core food products.*

B. Price and Purchase Behavior

French (2003) indicates that food pricing is an essential factor that shapes individual choice. Given the importance of cost saving consumers evaluate and compare price during the process of food purchasing (Nevin & Suzan, 2010). Conventional wisdom indicates that, a high retail price which reflects immediate monetary costs are likely to hinder consumer purchase behavior while a low price or competitive price leads to an increase in store traffic and product sales (Pan & Zinkhan, 2006). Hence the following hypothesis has been formulated:

H2: *Competitive price has a positive influence on consumer buying behavior for the essential food items in slum areas of Delhi*

C. Place/Convenience and Purchase Behavior

Place decision involves activities that make products available to target customers (Kotler, 2010). As such, it aims to provide shopping convenience sought by consumers in modern retail channels (Pan & Zinkhan, 2006). Most researchers agree that a convenient location increase store patronage via reduced transaction costs (Jabir et al., 2010). Empirical evidence confirms that convenience significantly affects consumer purchase of food products (Jaravaza & Chitando, 2013). Hence the following has been hypothesized.

H3: *Place aspects have a positive influence on consumer buying behaviour for the essential food items in slum areas of Delhi*

D. Promotion and Purchase Behavior

Promotion is a marketing activity that retailers use to bring traffic into stores and generate sales by communicating current offerings to targeted consumers (Dunne et al., 2010). Specifically, promotion can increase sales through sales switched from other stores and increase in consumption from existing consumers. Dunne et al. (2010) propose four basic types of promotion: advertising, sales promotions, publicity and personal selling. Two unique tools that create differences between retailer and manufacturer promotional programs include in-store sales promotion and advertising (Bemmaor & Mouchoux, 1991). A Chinese study (McNeil, 2006) reveals that consumers pay great attention to sales promotion (e.g. free gift, sampling, loyalty programs, discounts, and coupon) when selecting stores. This finding is extended by Hansen (2003) who demonstrates that promotional tools such as print advertisements, direct mail, customer loyalty and discount are likely to attract consumers to retail stores, leading to their purchase. Interestingly, Maruyama and Trung (2007) find that in-store advertising (e.g. panel, billboards, and flyers) has strong potential in affecting Vietnamese consumers' purchasing decision toward food products. Hence the following hypothesis has been developed:

H4: *Promotion factor has a positive influence on consumer buying behaviour for the core food items in slum areas of Delhi*

E. Theoretical framework

Based on the current research hypothesis following research framework is developed

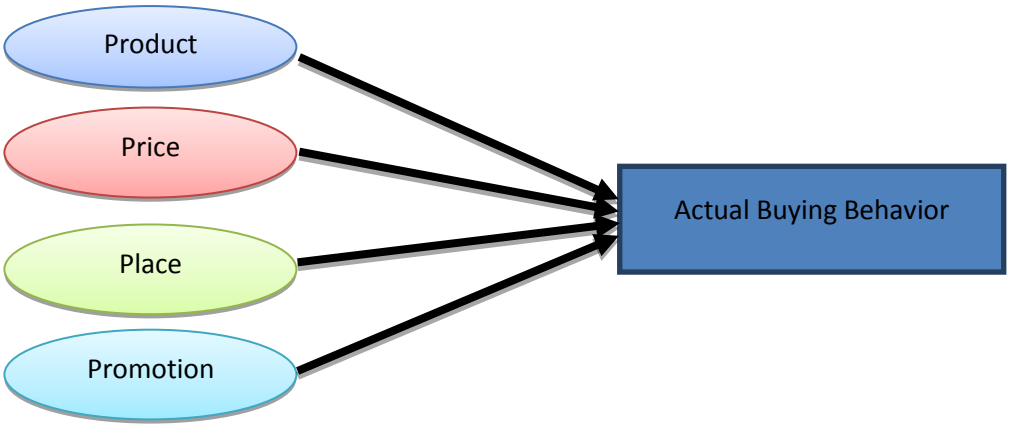

Fig.3 Proposed Research Model

VI. RESEARCH METHODOLOGY

In order to redefine the marketing-mix in context of BOP segment for food items and thereby determining the impact of marketing-mix on purchase behaviour, a deductive and quantitative approach was employed (Anders, Lewis, & Thornhill, 2012).

A. Survey instrument

The survey instrument employed for the current research work was developed based on the validated scales on retail marketing-mix and food purchase behavior. The questionnaire composed of 50 questions with different types of scales: nominal (yes or no answer) and five point Likert scales. The survey instrument was divided into three sub-heads; Demographic profiling; Consumption spending pattern and Marketing-mix elements. All the independent variables were measured by a 5-point Likert scale indicating consumers' perceptions on various marketing mix elements. The buying behavior variable was measured by Monthly household Consumption spending; Frequency of purchase food items and Quantity purchased every time (Ajzen, 2002; Nguyen et al. 2015). As consumers generally struggle to provide the exact money spent, responses were organized in appropriate categories (Ajzen, 2002).

B. Pre-test

Pre-test and pilot studies are both essential parts of questionnaire survey design (Sekaran 2003), in order to validate instrument and to ensure that the survey questionnaire is free of errors. In this research study, the pre-test was conducted by distributing questionnaires to 10 eminent professors in related fields. The changes suggested thereafter were accommodated in the questionnaire. Integral insights provided were in terms of definition of BOP consumers, Homogeneity in consumption habits of BOP consumers and fearful behavior of BOP community towards the surveys.

In addition, 15 respondents selected on the basis of judgmental sampling from the slum area of Uttam Nagar (Delhi) meeting the definition of BOP consumers. They were asked to suggest potential problems with the questionnaire design. This allowed translation of the survey instrument in local Language (Hindi).

C. Pilot Study

The pilot study was conducted in slum areas of Mangol Puri and Kathputli colony (Urban slums, Delhi) on the 100 households earning less than Rs. 8000 per month. The sample comprised of 44 females and 56 males respondents with 64 respondents in the income bracket of Rs. 20001-4000. Out of the total of 100 households, 88 were covered under the Public Distribution Scheme (PDS) and were reaping the benefits from Fair market shops. In this pilot study, the reliability of the measures items used in the questionnaire was assessed using the internal consistency test Cronbach's alpha. Cronbach's alpha estimate value above 0.70 is considered as acceptable (Nunally, 1978). All of the measures used in the pilot study observed an adequate reliability with Cronbach's alpha values of Product (0.864) and Price (0.909) except Place and Promotion. In order to ensure Cronbach's alpha for Place to be greater than 0.70 PLC2 (Availability of product on credit) was dropped; further, under Promotion, items PRM2 (local Shopkeeper) PRM4 (Groups), PRM5 (Neighbours) were dropped from final survey instrument. After deleting the internal consistency increased to of Place and Promotion increased to 0.734 and 0.710 (above 0.70) respectively.

VII. DATA COLLECTION

For the final data collection, 675 slums were identified in 5 zones comprising of 4.33 households with the reported population of 21.60 lakh (DUSIB,2015) across Delhi. Thereafter, six highly dense slum clusters (Density of the slum/ No. of slum areas) were identified. These six slum clusters included Mangol Puri, Kathaputali Colony, Zakhira, Nangloi, Peeragahri and Tigri from where survey of 600

households was conducted. A convenient sampling approach was adopted to verify the hypotheses. A paper-and-pencil questionnaire survey was administered among slum area respondents. The time of data collection was chosen carefully. The sample is composed of 600 respondents, coming from six different regions of Delhi. The sample comprised of 286(47.7%) of female and 314 (52.3%) male respondents with equal across different slim areas. Within the age group of 25- 44 years about 83 % of the respondents are covered and on extreme ends i.e. below 24 years and above 55 years, only 5.2% and 4% respondents are included (Table 2).

TABLE II DEMOGRAPHIC PROFILE OF THE RESPONDENTS ACROSS DIFFERENT SLUM AREAS

Demographics	Categories	Frequency	Percentage
Gender	Male	314	52.3
	Female	286	47.7
Slum Area	Mangol Puri	100	16.7
	Kathaputali Colony	100	16.7
	Zakhira	100	16.7
	Nangloi	100	16.7
	Peeragahri	100	16.7
	Tigri	100	16.7
Age (Transformed to Categorical variable)	Below 24	31	5.2
	25-34	255	42.5
	35-44	243	40.5
	45-54	47	7.8
	55 And Above	24	4.0
Year of Schooling	No Schooling	6	1.0
	Below 4 Years	159	26.5
	Below 8 Years	218	36.3
	Below 12 Years	217	36.2
	12 Years And Above	0	0
Household Income	Below Rs. 2000	6	1.0
	Rs. 2001-Rs.4000	156	26.0
	Rs. 4001-Rs6000	208	34.7
	Rs.6001-Rs8000	230	38.3
Marital Status	Married	588	98.0
	Unmarried	12	2.0
Family members	0-2	72	12.0
	3-5	411	68.5
	5 above	117	19.5
Ration card	No Ration Card	221	36.8
	Yellow Ration Card	229	38.2
	Red Ration Card	150	25.0

VIII. ANALYSIS AND RESULTS

Data collected was analyzed through a series of validated tools and procedures. The critical step involved in the development of a measurement scale is the performing factor analysis of the collected data followed by testing the validity (Construct and Discriminant) and reliability by using SPSS v 21. The results and findings of the analysis can be described in the following sub-sections.

A. EFA for Redefined Marketing- Mix of Non-Core Food Items

The three major issues-of Missing values, Outliers and unengaged responses, were addressed before performing factor analysis. Since data was administered by personally interviewing the respondents, no missing values, were noticed. Thereafter, outliers were determined for the

dependent variable in model i.e. actual consumption spending. To identify the multivariate outliers Cook's D method was used. The top 5 % of the outliers having Cook's distance more than 0.01 were excluded from the further analysis of core food products. The number of multivariate outliers observed was 28(4.83%) out of the total 600 cases. Thus, the number of respondents after the final study was 571.

Thereafter, EFA using Principal Component Analysis with Varimax rotation was performed. From Table 3, KMO measure of sampling adequacy was 0.902, Bartlett's test of sphericity was 19099.616 and statistically significant at 5 percent level thus, and the correlation matrix is not an identity matrix. It was concluded that the twenty-five variables of marketing-mix represent four factors and the sample size was adequate and suitable for the application of factor analysis.

TABLE III KMO AND BARTLETT'S TEST FOR MARKETING- MIX OF NON-CORE FOOD ITEMS

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**.902**
Bartlett's Test of Sphericity	Approx. Chi-Square	19099.616
	Df	210
	Sig.	.000

It was found that all the items have communalities greater than 0.40, whereby the lowest communality is for PRC1. This implies all the variables adequately contribute towards formation of the factors. Further, about 85.363% of the total variance is explained by the four factors extracted as depicted by scree plot which converges at fourth factor.

The items having low communalities, low factor loading and substantial cross loading were deleted to retain item forming highly correlated four constructs. The table 4 represents clean factor structure in which convergent and discriminant validity is evident by the high loadings within factors, and no major cross-loadings between factors.

TABLE IV ROTATED COMPONENT MATRIX FOR NON-CORE FOOD ITEMS

Codes	**Expected Product**	**Convenience**	**Price Insensitive**	**Non-Social Sources**	**Items**
PRD1	.785				Varieties/ Brands offered
PRD3	.692				Freshness of food items
PRD6	.807				Accurate measurement of quantity
PRD7	.813				Packaging of product
PRD8	.811				Food label/ Safety Mark
PRD9	.703				Availability of product
PRD10	.795				Taste of the food items
PLC1		.912			Nearness of the shop/Less Travelling
PLC3		.911			Standard Price and Quality offered
PLC6		.786			Wider Choice
PLC7		.736			Easy Return Policy of the shopkeeper
PLC8N		.795			No Bargaining opportunities
PRC1N			.920		NO List Price (MRP)
PRC2N			.793		NO Price charged less than List price
PRC3N			.717		NO Price per unit charged when bought product in small quantity
PRC4N			.597		NO Discount offered
PRC5N			.648		NO Availability of product on credit
PRM1				.622	Packaging of product
PRM3				.815	NGOs
PRM6				.769	TV

The marketing-mix elements were renamed and the first factor consists of five variables and named as Place convenience; the second factor consists of eight variables and is named as "Expected Product". The third factor consists of five variables which are named as "Price insensitivity". The fourth factor represents the non-social awareness tools to reach BOP consumers.

B. Hypothesis Testing

In the first step, bivariate correlations were computed to analyse the proposed relations between variables. The Pearson's correlation coefficients confirmed significant positive associations between the redefined marketing-mix (predictors) and Consumption spending (dependent variable). Then multiple regression was performed to determine the relative impact of marketing mix elements on buying behaviour.

From Table 6, R has a value of .877, this value represents the correlation between Marketing-mix factors and Consumption spending. The value of R square is .770 thus Marketing-mix factors can account for 77% of the variation in Consumption spending for the non-core food items. This means that 23% of the variation in Consumption spending cannot be explained by Marketing-mix. The adjusted R square explains of how well model generalizes and ideally its value to be the same, or very close to, the value of R square. In this model difference for the final model is small that is .770 − .768 = .0.002 (about 0.2%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 0.2% less variance in the outcome

TABLE VI MODEL SUMMARY FOR THE NON- CORE FOOD ITEMS

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.877	.770	.768	346.26887	.770	473.448	4	566	.000

The first part of the table 7 gives us estimates for b value for Convenience (Place) (b = 424.789), Expected Product (b = 357.196), Price Insensitivity(91.662) and Non-social Awareness (286.237) indicates that as predictor increases by one unit Consumption Spending increases by equivalent b value.

TABLE VII RESULT OF MULTIPLE REGRESSION ANALYSIS

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	2127.120	14.491		146.790	.000	2098.657	2155.582
Convenience (Place)	424.789	14.504	.591	29.289	.000	396.301	453.276
Expected Product	357.196	14.504	.497	24.628	.000	328.708	385.683
Price Insensitivity	91.662	14.504	.127	6.320	.000	63.175	120.150
Non-social Awareness	286.237	14.504	.398	19.736	.000	257.749	314.724

Thus based on the findings, regression equation can be given as follows:

Consumption Spending $_i = b_0 + b_1$ Convenience (Place)+ b_2 Expected Product+ b_3 Price Insensitivity+ b_4 Non-social Awareness

Consumption Spending $_i$ =2127.120+ 424.789 Convenience (Place) + 357.196 Expected Product+91.662 Price InSensitivity+286.237 Non-social Awareness

For this model, the Convenience (Place) ($t = 29.289$, $p < .05$), Expected Product ($t = 24.628$, $p < .05$) Price Insensitivity ($t = 6.320$, $p < .05$) and Non-social Awareness ($t = 19.736$, $p < .05$ are all significant predictors of Consumption Spending. The standardized beta values 0.591, 0.497, 0.127 and 0.398 for Convenience (Place), Expected Product, Price Insensitivity and Non-social sources of Awareness respectively indicates Convenience (Place) have the higher degree of importance in the model.

IX.FINDINGS

This section highlights important findings obtained on the basis of analysis of data. This section answer the research questions formulated earlier.

RQ1: What is the socio-demographic profile of BOP consumers (gender, age, education and income) in slum area of Delhi?

The sample drawn comprised of 600 respondents, coming from six different regions of Delhi. Responses from 286(47.7%) of female and 314 (52.3%) male respondents were obtained, selected in equal number (100) across different slum areas (Table 2). Within the age group of 25-

44 years about 83 % of the respondents are covered and on extreme ends i.e. below 24 years and above 55 years, only 5.2% and 4% respondents are included.

RQ2: What is the actual purchase behaviour or consumption spending on core and non-core food items at BOP in slum area of Delhi?

The average consumption spending of the sampled BOP consumers for Core and Non- Core food categories was Rs. 2576.7745 and Rs. 2127.1195 respectively. However, number of times they make purchase varied substantially with 6 times (Approx.) and 26(approx.) for the core food and non- core food consumption respectively. The maximum consumers spent Rs 2800 and Rs. 2000 for the core food and non- core food consumption respectively. Range of consumption spending for core- food category was Rs. 550-4250 and for non- core food products were Rs. 600-3600. Standard deviation in consumption spending was Rs 779 and 719 for core and non- core food categories. However, maximum number of visits consumers make for purchase varied from 9 visits to 42 visits for core and non-core food categories.

The monthly household consumption spending can be depicted for core and non- core food categories through histograms (Figure 4).

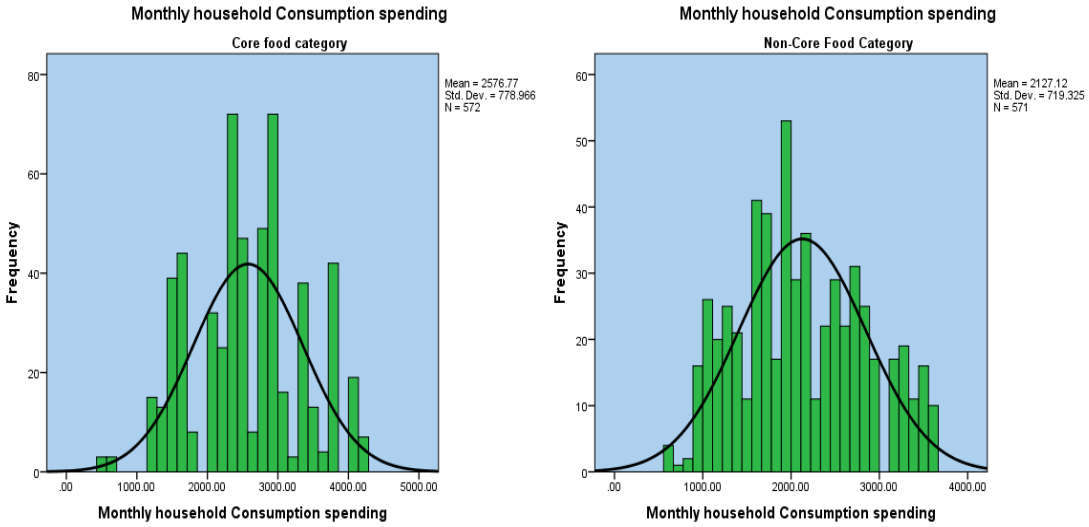

Fig.4 Histogram for the consumption spending on core and non-core food category

RQ 3: What is the redefined marketing-mix for non-core food items at the BOP market in slum area of Delhi?

The first factor comprised of five variables and was named as "Place convenience", the second factor of eight variables named as "Expected Product". The third factor of five variables named as "Price insensitivity". Fourth factor of four items names as the non-social media mix to reach BOP consumers. Reliability of the instrument measure by Cronbach's alpha can be summarized in Table 8, however, Cronbach's alpha for factor 1 i.e. Convenience was 0. 421, however same was increased to 0.944 by dropping PLC8 N.

TABLE VIII RELIABILITY OF THE INSTRUMENT FOR NON-CORE FOOD PRODUCTS

S.No.	Number of Items	Factor	Cronbach alpha	Mean	Variance
1	4	Convenience (Place)	0.944 (0.421)	4.157	1.016
2.	7	Expected Product	0.966	2.662	1.463
3.	5	Price Insensitivity	0.914	3.446	1.220
4.	4	Non-social Awareness	0.850	3.052	1.061

RQ4. What is the impact of marketing mix elements for core food item on consumption at bottom of the pyramid in slum areas of Delhi?

In the first step, bivariate correlations were computed to analyze the proposed relations between variables. The Pearson's correlation coefficients confirmed significant positive associations between the redefined marketing-mix (predictors) and Consumption spending (dependent variable). Thus results of four research hypotheses can be summarised as follows.

TABLE IX FOUR RESEARCH HYPOTHESES

RH	Hypothesis	Core Food Items	
		Test Statistics (Standardised coefficient)	Results (p=0.05)
1	PLC ⇨ CSPEND	0.591(0.00)	Reject
2	PRD ⇨ CSPEND	0.591(0.000)	Reject
3	PRC ⇨ CSPEND	0.127(0.002)	Reject
4	PRM ⇨ CSPEND	0.398(0.000)	Reject

Further, to test whether marketing-mix positively influences Actual Purchase Behaviour simple linear regression model was applied and it was noted that standardized beta values. For this model, the Convenience (Place) ($t = 29.289$, $p < .05$), Expected Product ($t = 24.628$, $p < .05$) Price Insensitivity ($t= 6.320$, $p < .05$) and Non-social Awareness ($t= 19.736$, $p < .05$ are all significant predictors of Consumption Spending. The standardized beta values .591, .497, and .127. .398 for Convenience (Place), Expected Product, Price Insensitivity and Non-social sources of Awareness respectively indicates Convenience (Place) have the higher degree of importance in the model.

The final model derived from data collection is illustrated in Figure 4.

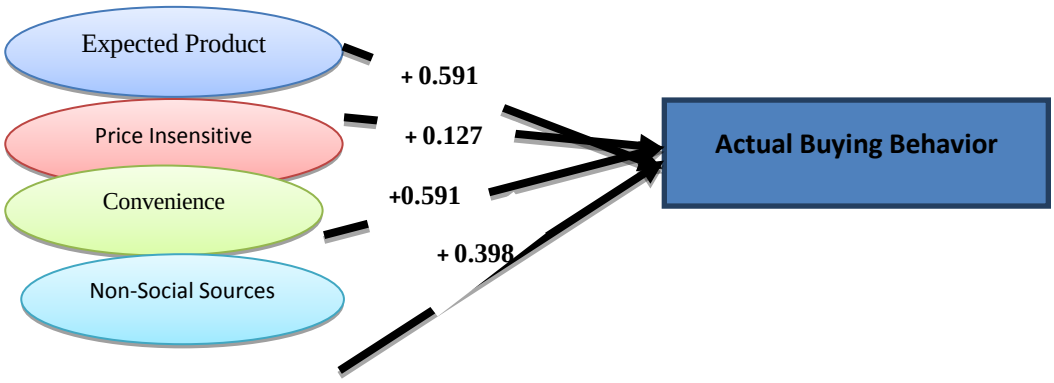

Fig.4 Operating Research Model

IX. DISCUSSIONS AND MARKETING IMPLICATIONS

EFA using Principal Component analysis with Varimax rotation was performed to see if the observed variables loaded together as expected and meet criteria of reliability and validity. The first factor comprised of five variables and was named as "Place convenience", the second factor of seven variables named as "Expected Product". The third factor of five variables named as "Price insensitivity". Fourth factor of four items names as the non-social media mix to reach BOP consumers.

A. Place Convenience

The access to product at subsistence marketplace is hindered by weak supporting infrastructure; therefore use of formal and informal distribution channel is prevalent. This marketplace represents one- to-one interaction between small neighborhood storeowners and local consumers, thus combining economic and social relationships among players in the marketplace (Viswanathan et al., 2008). This research study redefines the conventional place aspect as comprised of five elements including Nearness of the shop/Less Travelling, Standard Price and Quality offered, Wider Choice, Easy Return Policy of the shopkeeper and No Bargaining opportunities. These elements suggest that in case of non-core food items may not necessarily prefer place loyalty but look for Place convenience. The *t*-statistic indicated that the Place factor made a significant contribution to monthly consumption spending (p *Sig.* is less than .05). For this model, the Convenience (Place) ($t = 29.289$, $p < .05$), significant predictors of Consumption Spending.

B. Expected Product

The current study redefines the Product mix for non- core food items as well. The product- mix for non- core food items included Varieties/ Brands offered, Freshness of food items (Expiry date), Accurate measurement of quantity and Packaging of product. Existing literature suggested that the poor cares about brands as to them brands are proofs of quality (Prahalad, 2004). The current research corroborates this fact as in case of non- core food items consumers are more concerned with aesthetics and shows inclination

towards brands or varieties, thus this product- mix for non-core food items is named as expected product. The redefined product mix significantly contributes towards consumption spending ($p<0.05$).

C. Price Insensitive

BOP consumers are price sensitive as their basic concern is to satisfy physiological need in best possible way (Chattopadhyay & Laborie, 2005). However in case of non-core food items BOP consumers displayed complete price insensitivity and even if Price charged more than List price, no Discount offered and no Availability of product of credit, still the BOP consumer made purchase of non- core food items. Thus, this price-mix is named as Price Insensitivity index. Price Insensitivity *(standardized β = 0.127)* increases by one standard deviation, Consumption Spending increases by 0.127 Standard deviation. Thus, in case of non-core food item, the current study contrasts with existing studies.

D. Non- Social Sources

In Research conducted in Zimbabwe BOP, it was found marketer made more use of "Below the line media" over "above the line media". Above the line media used by marketers included print, Radio, TV Internet, outdoor and newspapers (Chikweche & Fletcher, 2012). However, for non- core food items media-mix comprised of Packaging of product, NGOs and TV. This implies use of non-social media-mix for obtaining information about non-core food items. This represents non-social sources of Awareness; the *standardized β = 0. 398* indicate that as Non-social Awareness increases by one standard deviation, Consumption Spending increases by 0.398 standard deviation.

Thus, in case of non-core food items Place, Product and promotional made significant positive impact on monthly consumption spending, but price factor made significant negative impact on monthly consumption spending. Thus, the regression model, suggested for non-core food items.

X. CONCLUSION AND RESEARCH IMPLICATIONS

The redefined marketing mix comprised of four factors named as "Place convenience", the second factor of seven variables named as "Expected Product". The third factor of five variables named as "Price insensitivity". Fourth factor of four items names as the non-social media mix to reach BOP consumers.

Due to, cost and geographical constraints, the researcher used a non-probability sampling. This technique questions the representativeness of the sample. The researcher recommend for the future studies to rely on a probability sampling in order to get more representative results. Sample size would lead to broaden the findings to the whole targeted population and increase the reliability of the whole study. Further, it is suggested to use 3 to 5 point Likert scale, translated questionnaire in local language to enhance understandability. Although the research study is non-contrived but results were observed to get improved when discussion on the other related aspects were encouraged.

The macro-environmental constraints such as inflation, role of Govt., other environmental factors, are prevalent in India. These constraints could potentially influence purchase decision by BOP consumers. Future studies are expected to be in direction of macroeconomic factors. Another research opportunity lies in furthering the research on the differences in the impact of below and above the line direct marketing activities on consumer purchase. Culture is an integral aspect of consumer buying decision in India, where there is are varied religions and culture, thus it becomes imperative to integrate its influence on application of consumer behavior theory across various market. This forms a gap for future research studies.

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