

# Visual cues and innovation adoption among bottom of the pyramid consumers

Visual cues  
and innovation  
adoption

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## Abstract

**Purpose** – This paper aims to explore how visual comprehensibility of a product can affect innovation adoption among the bottom of the pyramid (BOP) consumers in Bangladesh.

**Design/methodology/approach** – This is an exploratory qualitative study based on interviews with eight managerial respondents involved in the design and marketing of innovative products targeted at BOP consumers in Bangladesh and three respondents who are consumers of these products.

**Findings** – One key finding from this research, in comparison to innovation adoption research in developed contexts, is the distinct importance that BOP consumers attach to visual cues in learning about and understanding a new product.

**Practical implications** – This research provides guidance for private and public sector organisations selling products and services to BOP consumers explaining the role of visual cues in generating better product comprehension. It also identifies the role of social relations in facilitating the adoption of new products within this segment.

**Social implications** – By enhancing the adoption of so-called pro-poor innovations, this research can assist in bringing about positive social change and developmental benefits in this burgeoning segment of the market.

**Originality/value** – This is one of the first studies to consider innovation adoption of pro-poor innovations in BOP markets and one of the first studies to collect data on the role of visual comprehensibility for consumers in BOP markets.

**Keywords** Emerging markets, Bottom of the pyramid, Innovation adoption, Low-literacy, Visual comprehensibility, Visual cues

**Paper type** Research paper

## Introduction

In the context of the developing world, the marginalised and poor have gained new significance and are a focus for marketers owing to Prahalad's (2010) seminal work on bottom of the pyramid (BOP) consumers. Prahalad (2010) identified this segment of consumers as the 4-5 billion poor consumers of the world who are underserved or not served by the large organised private sector, including multinational firms. The BOP market is an attractive US\$5tn global market, the overwhelming majority of which lives in non-Western (and mostly developing) countries (World Resources Institute, 2007).

BOP consumers vary across the world in terms of their income, educational qualifications, gender, rural-urban mix, culture and religious differences. Based on recent data (CIA, 2013), this market is growing rapidly owing to increasing development and growth in developing countries like Mexico, Bolivia, Bangladesh and Ivory Coast (Payaud, 2014), where large segments of the market reside.



The BOP is dramatically different from the middle- and high-income consumer market because of unreliable electricity, infrastructural challenges, political instability, economic constraints (e.g. low GDP, high inflation) and a low literacy rate (Pralhad, 2005; Rogers, 2003; Nwanko, 2000; Johnson *et al.*, 2007; Eifert *et al.*, 2005). Products must, therefore, be developed that are tailored for this market and its unique surroundings (e.g. economic constraints, unreliable electricity etc.). Increasingly, there are segments of BOP customers with diverse needs, which are not well served within many categories, although this is changing as organisations are realising its economic potential. This raises some interesting questions about how organisations can begin to satisfy consumer needs more readily and create product offerings, which will be accepted in this marketplace. While a good deal of literature offers insight about new product acceptance in developed economies in Europe, Japan, the USA and the UK (Shih and Venkatesh, 2004; Plouffe *et al.*, 2001), research on BOP markets and the developing context is much more sparse within the literature, presumably because of the less recognised economic importance of such markets in the past. Current research in the area of innovation adoption has yielded many competing models (e.g. The Technology Acceptance Model, Davis, 1989; the Theory of Reasoned Action, Fishbein and Ajzen, 1975; Diffusion of Innovations, Rogers, 2003), each with different sets of innovation acceptance determinants. Visual comprehensibility is one of these determinants and represents the degree to which an innovation is intuitively comprehended by BOP consumers through its design and packaging. Increased visual comprehensibility should assist BOP consumers in understanding a product better in light of lower literacy rates. However, as yet, though identified in some research as an important factor in the BOP market (Nakata and Weidner, 2012), no research has explored this phenomenon based on data collection in BOP markets. To address this gap in the literature, this paper aims to explore how visual cues can enhance visual comprehensibility of a product and can affect innovation adoption among BOP consumers in Bangladesh. In doing so, it contributes to the literature on innovation adoption among BOP consumers through the development of insights about the role and nature of visual comprehensibility in influencing take-up of pro-poor innovations.

### Literature review

In the literature, several models have been put forward to explain consumer adoption of new products, and these typically focus on cognitive evaluations. Generally, the majority of the research is built upon the technology acceptance model (Davis, 1989), Rogers' (2003) diffusion of innovations or the theory of reasoned action (Fishbein and Ajzen, 1975). In the innovation adoption literature, perceived attributes of the innovation and characteristics of the adopter are found to be the main drivers of innovation adoption (Rogers, 2003; Meuter *et al.*, 2005; Gatignon and Robertson, 1985; Tornatzky and Klein, 1982). Adopter characteristics represent the personal traits that explain the adopter of an innovation, including psychographics and socio-demographics. Researchers have used a wide variety of socio-demographic characteristics in previous research (Gatignon and Robertson, 1985; Rogers, 2003). Some of these specifically focus on level of education, consumers' age and income. Other variables that are considered often include gender, household size and family life cycle. However, it seems that psychographic characteristics remain the most useful predictors of innovation adoption based on one recent meta-analysis in the area (Arts *et al.*, 2011). Typical psychographic characteristics include innovativeness, media proneness, opinion leadership and involvement (Lowe and Alpert, 2015). In addition, innovation attributes, one of the major drivers of innovation adoption, refer to the characteristics consumers use to evaluate an innovation, and these are normally presented by a consumer's

perception of the relative advantage, complexity, compatibility, trialability, observability (Rogers, 2003) and risk or uncertainty (Ostlund, 1974; Hoeffler, 2003) of the innovation.

The innovation adoption literature focuses on characteristics of the adopter and perceived attributes of the innovation. However, BOP consumers are often characterised as low-literate and with limited numeracy skills (Pralhad, 2010; Nakata and Weidner, 2012; Nwanko, 2000; Johnson *et al.*, 2007). Consequently, visual comprehensibility, or the degree to which an innovation is intuitively comprehended by BOP consumers through its design and packaging (e.g. colours, shapes, logo, photos, physical package size and other elements of product package), is likely to be important for innovation adoption in the BOP context. Though this has been hypothesised in prior research (Nakata and Weidner, 2012), observations about visual comprehensibility in this market segment are sparse. Prior studies in developed country contexts have shown that some consumers are more likely to process information visually (Heckler *et al.*, 1993). This theme, which recognises the importance of the visual aspects of a product, has become more common with research on innovation adoption (Crilly *et al.*, 2004). Other research in the BOP segment has begun to recognise the importance of visual meaning too (Chikweche and Fletcher, 2011). In a consumer context, it is expected that those with a high visual orientation are more likely to find it easier to use any product and service because they can visualise it better than those who are low in visual orientation (Bruner and Kumar, 2005). However, a visual orientation is more prevalent among illiterate consumers who are less familiar with text and the alphabet (Havelock, 1978). Prior research has also found that visual style processing influences perceived ease of use of an innovation (Bruner and Kumar, 2005), although this research was conducted on consumers in developed contexts. One example is that consumers with a low level of literacy may use one aspect of a product (such as price, size, ingredients, etc.) as a proxy to infer value instead of interpreting price per weight statements written on the package (Viswanathan *et al.*, 2005). For example, for the given price, such a consumer may use attributes like weight or size to determine whether that product is good value, rather than more carefully evaluating it as a bundle of attributes. Therefore, because of information processing constraints (e.g. low literacy), BOP consumers may use visual cues such as colours, shapes, logos, photos, physical package size and other elements of a product's package to understand the value of that product. These consumers exhibit a greater reliance on visual cues (Viswanathan *et al.*, 2005), and such cues thus become more important in enhancing the comprehension of a product and providing messages that consumers understand better.

In addition, there might be a large distance between BOP consumers and companies economically, culturally and geographically. To some, these causes/products may be unheard of in some rural areas and companies have to first educate consumers about product benefits to influence adoption. Visual cues can enhance visual comprehensibility and are likely to help low-literate BOP consumers to more easily understand the benefits of new and unfamiliar products and services. Given the importance of visual comprehensibility, it is surprising that there has been very little work in identifying ways in which visual comprehensibility can affect adoption. In the present research, visual comprehensibility was explored in an effort to better understand its relationship with adoption.

### Research context

Bangladesh was chosen as the research context for this study, as it has large segments of BOP consumers. It has also been used as a research context in other BOP studies (Rahman *et al.*, 2013) because it is congruent with Prahalad's (2010) assertions about the BOP. For instance, 31.5 per cent of the population of Bangladesh was under the national poverty line during 2010 (World Bank, 2013). Another reason for choosing Bangladesh for the study was

that the country has primarily concentrated on innovations related to infrastructure and social development recently. Some innovations like sanitary latrines, mobile banking and community information centres are diffusing among the BOP population of Bangladesh. As this research was about visual comprehensibility and innovation adoption, choosing a country like Bangladesh, which primarily focuses on innovations in different sectors, was very relevant. In addition, the researcher is familiar with Bangladesh, its culture and language (i.e. Bengali, the national language of the country).

### Qualitative methodology

The overall methodology of this paper is based on exploratory qualitative research given the under-explored character of the topic and lack of empirical research on visual comprehensibility in the BOP context (Touzani *et al.*, 2015). Exploratory qualitative research provides insights to the researcher when there is limited knowledge of the subject matter (Zikmund *et al.*, 2014). It is useful where the subject matter of the study cannot be measured in quantitative terms or where quantitative measurement does not provide a realistic picture of the subject matter. Exploratory research can also be useful in defining a problem more precisely, identifying the relevant cause-and-effect-related course of action or gaining insight before proceeding with conclusive research. In such circumstances, information required in the exploratory stage will be loosely defined by using open-ended (very often) research questions rather than specific hypotheses or by actual measurement (Blumberg *et al.*, 2014; Denzin and Lincoln, 2005).

Semi-structured interviews were conducted with respondent groups (Table I) to gain an understanding of the topic, similar to other recent research with similar objectives (Dowell *et al.*, 2013; Lowe *et al.*, 2014). If one takes a loosely structured and evolutionary approach, for example, personal interviews with industry experts are appropriate. Meticulous and rigorous sampling procedures were not so important here. What was more important in this case was the selection of the right and “quality” skilful moderator and participants who were willing to open up their imagination, be creative and reveal perhaps sensitive pieces of information, thoughts and behaviour about a subject, object or issue (Malhotra, 2004). One of the authors acted as an interviewer himself in this study and is fluent in English and Bengali, the national language of Bangladesh.

An exploratory study may take the researcher one step closer to conducting conclusive research as a follow-up investigation. Exploratory research helps to provide qualitative data full of rich insights. A researcher may search for quantitative information in the study, but it

No.	Type of respondents	Product or service category
R1	Head of Marketing	Toiletries Products
R2	Head of Fixed Broadband Internet and Broadband Commercial Division	Community Information Centre (CIC)
R3	Junior Consultant	IT based Services
R4	Senior Officer, Events and Activation	Mobile Banking
R5	General Manager	Food Products
R6	Deputy General Manager	Micro Insurance
R7	Entrepreneur	IT based Services
R8	Entrepreneur	IT based Services
R9	Consumer	IT based Services
R10	Consumer	IT based Services
R11	Consumer	Mobile Banking Service

**Table I.**  
Respondents

does not have to involve rigorous mathematical analyses. Most exploratory research is not quantitative. Applied qualitative research often uses thematic analysis (Braun and Clarke, 2006), which was especially well matched to this research. Consistent with key recommendations in the literature, thematic analysis was used to identify, analyse and report key themes in the data (Braun and Clarke, 2006; Boyatzis, 1998; Frith and Gleeson, 2004; Hayes, 2000; Sayre, 2001). Initially, the entire data set was read and summarised. Then, the summaries were reviewed by identifying patterns that could form themes as well as codes of analysis. As this research used inductive thematic analysis, the process of coding the data was data-driven, where the quotes were positioned under thematic headings. Therefore, the themes of this research are based on what was derived from the data.

### Respondent groups

Interviews were conducted with managers, consultants, entrepreneurs and BOP consumers who have knowledge about the products or innovations aimed at the BOP market in the context of Bangladesh. They were chosen on the basis of convenience and the acquaintance of the respondents with the interviewer. Respondents' basic characteristics are highlighted in Table I.

Discussion within the interviews explored a range of themes but centred around respondents' knowledge of the product or innovation, their attitudes and beliefs about the products, how they visualised the attributes of the product and the ways in which different attributes of the products affected their understanding of the products, with particular references to its visual aspects. Prompting and probing facilitated the conduct of the interviews, making way for useful information for analysis later on. Each interview lasted about 30 min and was recorded (except for one interviewee, who did not want to be recorded, and in this case detailed notes were transcribed). Indicative interview questions are provided in Table II. These guidelines represent themes that were covered, but questioning was flexible throughout the interviews.

### Key findings

#### *Inter-generational transfer of meaning*

A large number of BOP consumers have reading and writing difficulty because of a higher illiteracy rate in the BOP context. These consumers typically rely on their children or other family members for help in understanding what is written on products. The Head of Fixed Broadband Internet and Broadband Commercial Division (R2) of a telecom company mentioned: "They (BOP consumers) take help from next generations (like school going sons or daughters) for reading and writing something during computer usage in the Community Information Centre". Similarly, the Junior Consultant (R8) of information service centres mentioned: "To address reading and writing difficulty of BOP consumers, we promote our information service centre through TV advertisement and projector". The Deputy General Manager (R6) of an insurance company of Bangladesh commented on the reading and writing difficulty of BOP consumers in a similar way: "Some of them (BOP consumers) take help from family members, who went to primary school". It can be understood from the responses of interviewees that BOP consumers have reading and writing difficulties, as many of them are illiterate. Therefore, BOP consumers, who have reading and writing difficulty, need to seek help from others to understand the written information of a product. However, symbols, shapes, photos and shapes of a product can assist with this issue and can help BOP consumers to better understand the product. Marketers thus may have to target the literate member in the family to communicate messages to the illiterate BOP target. Thus, the conceptualisation of the target audience, media channels and message

**Table II.**  
Interview guideline

Respondents	Indicative questions approach related to visual comprehensibility
Senior managers, Consultants, Entrepreneurs	How do low-literate or illiterate consumers recognise your company's brand or product? How do they understand the use of this product? How do you overcome reading and writing difficulties faced by consumers of your products? Do you think that visual cues can influence the adoption of this product and in what way? What types of visual cues can influence the adoption of this product? How can these visual cues influence their adoption?
BOP Consumers	Can you please tell me what you know about this product? How do you recognise this product or understand the use of this product? Do pictures, symbols, shapes and colours of this product help you to recognise or understand this product or organisation? What does this symbol mean to you? Does it help you to understand and use the product? Does any other element of this product help you to recognise or understand this product?

delivery with the incorporation of social influence may have to take a modified approach to enhance marketing effectiveness.

*Semiotics and the added importance of visual cues for bottom of the pyramid consumers*

Nakata and Weidner (2012) mentioned that BOP consumers attach literal, concrete meaning to colours, shapes and photos. From the interviews conducted, many of the respondents' answers were consistent with the work of Nakata and Weidner (2012). One consumer (R11) of a mobile banking company mentioned that he had reading and writing difficulty and he used to recognise the outlet of this mobile banking company by their pink coloured bird symbol logo. He mentioned: "I recognise \_\_\_\_\_ by the bird symbol of \_\_\_\_\_".

Similarly, a customer (R10) of an information service centre mentioned: "I recognise the information service centre by their logo". Likewise, a Junior Consultant (R8) of the information service centre mentioned: "They (BOP consumers) can recognise any information service centre by the logo [on] the sign board". In addition, the Deputy General Manager (R6) of an insurance company mentioned that their company has a logo and BOP consumers recognise their service by this logo: "Yes. They recognise our insurance company by our logo". Interestingly, he (R6) also mentioned that their insurance company uses different coloured paper to address the reading and writing difficulty of BOP consumers, stating "We also use different coloured papers or forms so that they can identify or understand the purposes of different papers or forms". Although BOP consumers have difficulty reading and writing, they understand the English numeric digits of mobile phones. The interviewer asked questions to understand how BOP consumers' abstract information from the English numeric digits. One entrepreneur (R7) mentioned: "Farmers, who have no education, can recognise the numeric digits as symbols". A Senior Officer (R4) of a mobile banking company elaborated on this:

Illiterate people can understand pictures, symbols, shapes, and they try to recognise numeric digits as different symbols and attach meanings to those symbols instead of understanding information from them.

Thus, the quotes above imply that BOP consumers, who lack basic education and are often illiterate, place a great deal of emphasis on the meaning and associations from a logo through its symbols, colours, etc. Different colours, symbols and pictures integrated into product communications help BOP consumers to better recognise and understand the product, and this may lead to improved adoption later because the learning process is simpler and more efficient. For example, as pointed out by [Hammond and Prahalad \(2004\)](#), Prodem FFP, a Bolivian firm, developed an automated teller machine (ATM) that recognises finger prints, making it simple and easy for BOP consumers to use it. It also translates text to speech and displays a colour-coded touch screen ([Hammond and Prahalad, 2004](#)).

#### *Localisation of language for the low-literate*

Integrating any product information in a local language in the product package or during service can help low-literate BOP consumers to understand the product. One consumer (R10) of an information service centre mentioned: “Although for the illiterate it is the same, low-literate people can benefit if the service or product integrates Bengali language”. Similarly, another consumer (R11) of a mobile banking company mentioned: “It could be easier for low-literate people to understand the product if the SMS are in Bangla language” (which, it should be noted, is the national language of Bangladesh). An entrepreneur (R7) also mentioned the importance of integrating the local language in products for farmers:

[...] who have no option but to take help from friends and family members to understand the English SMS. SMS in English language is sent to them only because all mobile phones don't support Bengali language. SMS in Bengali language will help the low-literate people to understand the service a lot better.

It is understood from the above-mentioned extract of interviews that product benefits are better comprehended by low-literate BOP consumers when the local language is integrated in product packaging, service environment and marketing communications.

#### *Ethical practices and signalling authenticity*

A General Manager (R5) of a food product company also mentioned that BOP consumers try to recognise brands by the logo and symbolic interpretation of brand name instead of understanding more explicit textual information from them. He provided an example that sometimes consumers of their company also get confused by a different brand name with a similar looking logo and package; some duplicate (fake) brands use similar colour combinations or similar shapes in their packaging, which confuses illiterate people. In addition, the Head of Marketing (R1) of a toiletries company mentioned the importance of visual cues for BOP consumers by mentioning:

A large part of BOP consumers is illiterate and they only understand colour combination, pictures and shapes. Visual cue is very important to them. If they (BOP consumers) see any visual cue [...], for example fairness cream is improving skin fairness on TV commercial [...], then they will go for it.

A lack of education may make them more susceptible to messages with ambiguous meaning, reinforcing the need for ethical practices and the need for signs of authenticity in such markets where intellectual property is hard to enforce ([Sey et al., 2010](#)).

### **Discussion and implications**

The paper provides some exploratory observations on how logos, symbols, different colour combinations and other visual aspects of a product help BOP consumers to understand or

recognise the product/service better. As BOP consumers face a number of information processing constraints, such as illiteracy, they attach self-construed meanings to logos, colours, symbols, shapes, photos and other visual elements of a product. Help within proximate social circles (e.g. children, other family members or friends with fewer constraints) is quite common in this case. How relatively literate family members help BOP consumers understand messages could lead to a rethinking of how to conceptualise the target audience, plan media channels and devise the messages. With the adoption of products and services, an understanding of this characteristic of the BOP target group may lead to a modified approach in marketing of products and services.

Private and public sector organisations need to exhibit care in the design and use of logos, colours, symbols, shapes and photos so that BOP consumers can best decode the messages and can recognise and understand their products easily. For example, symbolic brand logos (e.g. such as the mobile banking company's bird symbol) seem to be easier for BOP consumers to recognise and attach meaning to, rather than a logo which contains text only. Though visual logos are more common in developed countries where brand building and brand equity management has a richer tradition, in many BOP countries, products are often sold to consumers with text-based descriptions. We found in the study that visual cues, brand names and packages (different sizes, different colours) can help the BOP consumers recognise and buy/use the product. Consequently, organisations in BOP markets ought to use more visual cues (different colours and different sizes) in their promotions so that BOP consumers can recognise and understand the benefits of their products more clearly. However, this needs to be traded off against the possibility of creating further confusion. For instance, organisations can use different colours to present different features or options of a product so that BOP consumers can easily understand the differences between different features or options of a product. Pictographic integration of product benefits in the product package and promotion in the local context (including the language) is the key managerial issue here. As low-literate BOP consumers cannot read the ingredient information from a product package, organisations can use different pictographic symbols to represent ingredients so that BOP consumers can more easily understand the ingredients of a product. However, this of course needs to be coupled with investment in brand building to facilitate that understanding through the development of associations to the brand.

It should be noted that there are some ethical issues here also. One has to remember that marketing acts as a stimulus to demand. If BOP consumers are influenced by various marketing tactics to shift their expenditure from essential to non-essential products, in a world of free choice, the results could be damaging to the poor. However, the products discussed here are so-called pro-poor innovations (Ramani *et al.*, 2012) that assist the poor.

Consumers in the BOP segment are largely a vulnerable market because of their limited education and lack of experience in evaluating marketing claims. In some cases, unethical and unscrupulous companies may somehow persuade this vulnerable group into buying their product. The hype created by marketing activities may have to be restrained by ethical marketers in their transactions with the BOP consumers. The BOP consumer with his/her limited resources is not able to afford an inventory of products and buys only what he/she can consume on an immediate basis and hence comes the logic of single-use sachets by shampoo companies, for example. But it is also known that the additional packaging also means additional cost, which is at the end of the day passed on to the customer. If the poor are paying this cost, then are they not misled into thinking that smaller packages that look more affordable are in fact costing more on a per unit basis?



### Limitations and future research

One limitation of this study is that all interviewees were selected from Bangladesh. Visual comprehensibility is related to the literacy rate of a country. Therefore, some findings reported in this research may not be applicable in the context of another country. While our study is limited by its exploratory nature, it helps in providing an initial understanding of a relatively under-researched market. Therefore, though this research extends the research by Nakata and Weidner (2012), future research should test our findings, preferably quantitatively, by first developing scales for visual comprehensibility and then testing the relationship between visual comprehensibility and behavioural intention towards the usage of a product/service in the BOP context. Also, future research on a large sample size would make the results more conclusive.

### Conclusion

The literature on consumer adoption of innovative pro-poor products and services within the BOP segment remains sparse because such markets have traditionally not been deemed to be economically viable. Such products and services have a distinct ability to improve the lives of BOP consumers and contribute to economic development through enhanced welfare. Despite some research that highlights the importance of visual comprehensibility, very little research has collected data to understand this phenomenon better. The present research contributes by identifying ways in which visual cues help BOP consumers to understand and use products and services better and the social nature of these product-to-consumer interactions. As this is an initial study in this area, further research is necessary to elaborate on the current findings and to quantify them for different product categories and circumstances.

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