



BARRIERS AND ENABLERS IN CO-DESIGNING WITH MARGINALISED PEOPLE

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Abstract

Co-design with marginalised people is crucial for sustained adoption and use of frugal innovations or Product Service Systems (PSS). Interviews were conducted with eighteen designers to identify barriers and enablers that they encounter in co-designing with marginalised people. The findings suggest that the factors supporting or hindering this co-design relate to the context of marginalised societies, co-design processes and methods, organisational issues, and aspects of collaboration. Consideration of these factors can lead to more impactful co-design with marginalised people.

Keywords: co-design, design process, human behaviour, poverty, base of the pyramid (BOP)

1. Introduction

Low-income people living at the base of the world income pyramid, typically called as the Base of the Pyramid (BOP), encounter a multitude of problems, with causes, consequences and alternative solutions at individual, institutional, and structural levels (Jagtap, 2019a). They often face major challenges in satisfying basic needs, and lack access to basic facilities, such as education, security, safe drinking water, sanitation, public health, and infrastructure (e.g. Prahalad, 2004; Aranda Jan et al., 2016). Design is indispensable to satisfy unmet or under-served needs of BOP people living in marginalised sections of societies (Papanek and Fuller, 1972). Appropriately designed frugal innovations manifesting in the form of products, services and Product Service Systems (PSS) can contribute towards human and social development of these societies (e.g. Schumacher, 1973). Such products and PSS include, for example, agricultural tools and equipment, systems providing access to energy, water and sanitation facilities, educational products and services, programmes supporting entrepreneurial activities, programmes raising awareness about environmental issues, or any other products and PSS that support development of BOP people (e.g. Jagtap, 2019a).

Much of the academic literature on design of products, services and PSS is anchored in advanced economies and relatively affluent regions. In contrast, very little is known about design in the context of marginalised sections of societies. The economic gap and the considerable socio-cultural divide between marginalised societies and developed countries or relatively affluent areas in developing countries suggest that factors determining product success are significantly different across these contexts (Jagtap et al., 2013; Prahalad, 2004). Co-design with BOP people is a key determinant of product success in the context of marginalised societies (Jagtap, 2019b). Products and services that are externally designed, without involving BOP people in design activities, can fail to address a variety of constraints and requirements in BOP communities. Such remotely designed products can fail to create

positive impact on the lives of BOP individuals and communities. Co-design is crucial to enhance adoption and continued usage of solutions by BOP people.

Whilst co-design is a key determinant of product success in BOP communities, most of the extant research into co-design has focussed almost exclusively on non-BOP contexts from Western economies and relatively affluent regions (e.g. [Sanders and Stappers, 2008](#); [Grönroos, 2011](#); [von Hippel, 2005](#)). These works, while valuable in their own right, have provided limited insight into the issues of co-design in BOP communities which are typically unfamiliar contexts for most design professionals ([Jagtap, 2019a](#); [Viswanathan et al., 2011](#); [Jagtap and Larsson, 2019](#)). Therefore, research into co-design in BOP contexts, with an emphasis on identifying factors that support or hinder co-design of products and services with BOP people, is needed. In view of these knowledge gaps, this research aims at identifying barriers and enablers that designers encounter in co-designing with BOP people. Knowledge on these barriers and enablers can help in developing tools and methods to support designers in their attempts of co-designing with BOP people. In order to address the research aim, we carried out a qualitative analysis of data collected through interviews with designers. In this paper, we use the terms ‘marginalised’ and ‘BOP’ to refer to people or societies (e.g., marginalised people, marginalised societies, BOP people, BOP societies, etc.) facing wide range of deprivations and problems in satisfying basic needs such as food, shelter, and clothing. They lack access, or have weak access, to basic facilities such as public health, education, sanitation, infrastructure, etc.

Following this introduction, rest of the paper is structured as follows. Section 2 presents the background literature. Section 3 presents the research methodology employed, providing details of sampling, data collection, and data analysis. Whilst Sections 4 and 5 present findings, they are discussed further in Section 6 together with concluding remarks and areas for further research.

2. Co-design and marginalised societies

The concept of using design to improve life circumstances of BOP people can be traced back at least to ‘Appropriate Technology’ and ‘Design for the Real World’ movements, articulated in the 1970s ([Schumacher, 1973](#); [Papanek and Fuller, 1972](#)). The concept of ‘Appropriate Technology’ was initially formulated by the economist E.F. Schumacher. The ‘Design for the Real World’ movement was initiated by Victor Papanek, an industrial designer. In Schumacher’s and Papanek’s movements, the role of non-governmental organisations (NGOs) in undertaking design activities is recognised ([Jagtap, 2019a](#)). On the other hand, the role of for-profit companies is evident in Prahalad’s Base of the Pyramid (BOP) approach. In 1998–1999, C. K. Prahalad and his colleagues, proposed that companies can raise their profits and alleviate poverty on a large scale by tapping BOP markets ([Prahalad and Hart, 1999](#)).

Whilst the role of companies is emphasised in the BOP concept, these companies typically work with local NGOs to undertake design activities ([Jagtap, 2019b](#)). NGOs, supported by their experience of working in local communities, engage in co-design activities with BOP people (e.g. [Rivera-Santos and Rufin, 2010](#); [Teegen, 2003](#); [Jagtap and Larsson, 2013](#)). Just as the role of NGOs in undertaking co-design activities with BOP people is recognised in Schumacher’s and Papanek’s movements and the BOP approach, it is recognised in several other approaches discussed using names such as ‘humanitarian engineering’, ‘design for development’, etc. (e.g. [Margolin, 2007](#); [Donaldson, 2009](#); [Jagtap et al., 2013](#)).

The constraints, deprivations and socio-cultural characteristics of marginalised societies are distinctly different from those in middle- and high-income societies ([Prahalad, 2004](#); [Aranda Jan et al., 2014](#)). Therefore, products and services designed for marginalised societies must address unique circumstances and requirements in these societies. However, designers are often unfamiliar with marginalised societies, as they typically lack the experience of living in these societies and are detached from subsistence conditions in their daily lives ([Jagtap et al., 2014](#)). To support their design process, a deeper understanding of the target context is required. In particular, it is necessary to co-design solutions with BOP people to maximise acceptance and adoption of designed solutions by the BOP ([Jagtap, 2019a](#)).

Products and services which are designed outside the BOP, either in developed countries or in affluent areas of developing countries, have minimal impact on their acceptance. Designs that are externally

conceived and simply implemented in the BOP fail to achieve sustainable adoption and impact (e.g. [Murcott, 2007](#); [Dodson et al., 2012](#)). Some authors argue that for sustainable impact on BOP communities, co-design activities are crucial, with a significant need to look beyond technological aspects of design to BOP communities and their context ([Jagtap, 2019b](#)). Co-design is beneficial for both designers and BOP consumers. It enhances designer's understanding of the local setting and environment in which the eventually developed products and services will be used. Co-design enhances designer's understanding of the needs and preferences of BOP consumers, their aspirations and life circumstances ([Sethia, 2010](#)). In addition, co-design is valuable for BOP people. It empowers them for existing as well as future participatory activities, and can potentially enhance their design capability. Moreover, BOP people develop a feeling that the design project belongs to them, supporting their project ownership ([Jagtap, 2019b](#)). Many authors have called for co-designing with BOP people at every phase of the design process and for continuous learning from them (e.g. [Murcott, 2007](#); [Viswanathan et al., 2011](#)). Given the profound need and importance of co-design with the BOP, several authors have highlighted a critical requirement of developing BOP-specific co-design methods and tools that are based on practitioners' experiences of co-designing solutions with BOP people (e.g. [Jagtap, 2019a](#)). More recent studies have also highlighted the urgent need of undertaking research into co-design in the BOP context ([Jagtap, 2019a](#), [Nahi, 2016](#)).

However, extant research on co-design has been undertaken predominantly in middle- and high-income markets in developed countries or relatively wealthy regions of the world. The idea of co-design in these markets is rooted in a long tradition of design and innovation research on customer participation ([Nahi, 2016](#)). Since the late 1970s, many businesses have attempted to access external knowledge by involving their customers in design process ([Sanders and Stappers, 2008](#)), and several studies in non-BOP contexts have examined co-design, cocreation, lead-user innovation, and Nordic participatory approaches ([Grönroos, 2011](#); [von Hippel, 2005](#)). These studies, while valuable in their own right, have yielded limited insight into co-design in marginalised societies which are distinctly different on many dimensions from middle- and high-income societies.

As compared to middle- and high-income societies, co-design research in underprivileged societies has been given little attention. A few studies have used participatory design activities in marginalised societies (e.g. [Hussain et al., 2012](#); [Ambole et al., 2016](#)). However, studies investigating practitioners' co-design experiences in the BOP are lacking. In particular, no previous study has identified barriers and enablers that practitioners encounter in co-designing with BOP people.

3. Research methodology

A qualitative investigation was undertaken into barriers and enablers that designers encounter in co-designing with BOP people. By employing direct communication and chain referral sampling, eighteen participants were recruited in the present study (e.g. [Bryman, 2004](#); [Jagtap, 2018](#)). The participants were drawn from sixteen NGOs in India involved in designing products and services in the context of marginalised societies. Whilst the participants referred to themselves as engineers, development professionals, community development practitioners or by using some other term, they are henceforth referred to as 'designers' due to their design activities and roles. The designers typically held bachelors or masters level degrees relevant to their work, with professional experience ranging from 7 to 29 years. Overall, they have worked in a broad range of capacities on projects covering numerous sectors such as housing, agriculture, water, sanitation, etc. They were involved in co-designing solutions with BOP people. In order to maintain confidentiality, the designers, their organisations, and the projects they discussed are not mentioned in this paper.

The mean duration of the eighteen semi-structured interviews was approximately 70 minutes. Prior to each interview, a standard process of seeking informed consent was followed. With permission, each interview was audio recorded. The designers were asked to recall experiences of projects in which they co-designed with BOP people, and to explain the design process that they employed. The discussions focussed on their own role and role of others in the projects, goals and outcomes of the projects, and experiences of employing specific methods and techniques in co-design activities, including their benefits and weaknesses. Furthermore, the discussions focussed on nature and challenges of involving BOP people in the design process, including matters that support and hinder

co-design activities. Each interview was carried out in local language. In each interview, the researcher adopted the terms that were employed by the designers to refer to ‘co-design’.

Audio recordings of all interviews were transcribed verbatim for iterative analysis process using a general inductive approach (e.g. Thomas, 2006). The transcribed interview data was analysed with the aim of identifying barriers and enablers that designers encounter in co-designing with BOP people. The data analysis was content-driven, with the aim of identifying occurrences of these barriers and enablers. After several rounds, the analysis stabilised on the main categories of barriers and enablers that are presented further in this paper. The categorisation of these barriers and enablers was intended to signify the participating designers’ voice.

4. Barriers

This section presents findings on the barriers that the designers encountered in co-designing with BOP people.

4.1. Knowledge deficiencies

The BOP people’s unfamiliarity with design activities was described as having a limiting effect on their participation in design projects. The BOP people’s limited knowledge of design processes and of generation and evaluation of requirements and alternative solution concepts was considered as an obstacle in co-designing with them. Negative consequences of this were well known, manifesting in the form of project delays or limited involvement of BOP people in co-design activities. In projects that were considered as complex and technology-intensive, the BOP people were involved primarily in identification and evaluation of needs. In such projects, their participation in generation and evaluation of conceptual solutions was virtually absent, and was attributed to their low literacy levels, innumeracy, and limited design knowledge and experience.

4.2. Gender

The designers in this study spoke of difficulties that they encountered in co-designing with women from BOP communities. Whilst involving men in co-design activities was seen as relatively easy, involving women was considered challenging. This was typically attributed to gender-based norms and cultural factors, which restricted equal participation of men and women in some activities. Participatory activities in mixed gender groups may not be appreciated due to gendered power relations and associated heterogeneity in BOP communities. The designers mentioned that women were silent and did not actively engage in co-design activities undertaken in mixed gender groups.

4.3. Discontinuity

The designers referred to inconsistent participation of BOP people as an influence on their participation in design projects. The designers cited several reasons for their irregular participation including, among others, their nature of work and family commitments. Their irregular hours of work in informal sector, pressing need to find casual work, and sickness were deemed as contributing factors to their inconsistent participation in design activities. Discontinuity in their participation was considered as having several problematic effects. For example, since many BOP people could not participate in all the co-design activities, they could not contribute throughout the design process. When they missed some design activities, their engagement in further activities was less effective.

4.4. Resource constraints

A recurring theme in the interviews was the availability of resources in the organisations to effectively involve BOP people in the design projects. Budget-constraints were described as having a negative effect on gaining access to BOP people, on organising and managing their ongoing participation, and on facilitating their contribution to design activities. Limited resources were also thought to give rise to breaks in the projects, leading to inefficient and ineffective accomplishment of co-design activities. The designers mentioned that they could not involve a broad range of BOP people deemed to be essential for the projects. This was attributed to the human resources and funding available in the

organisations. Limited resources and budget were also described as having an effect on methods and tools used to engage with BOP people in participatory activities, e.g. constraints on using high-fidelity prototypes to gain feedback from BOP people.

4.5. Psychosocial hardship

The designers in this study mentioned that some BOP people were at unease during co-design sessions, and did contribute to the planned activities. They were perceived as nervous and low in confidence during their interaction with the designers. Socio-cultural and knowledge differences that might exist between BOP people and designers were speculated as a contributing factor behind their low confidence. Some of the designers referred to uncertain income of BOP people, their ill health, and constant stress and social isolation that they experience as having an influence on their behaviour during co-design activities, with an inhibiting impact on their contribution to design projects.

4.6. Location

Some of the designers cited difficulties in involving people from remote villages in design projects. Involving BOP people from urban, semi-urban and accessible villages was considered relatively easy because gaining access to people from these locations and organising their continued participation in design projects was considered to be manageable. In contrast, involving people from remote communities and villages was seen as problematic because of difficulties in accessing their locations and resources required to manage their participation in design projects. When people from such location were involved in design projects, it was only for a few sessions and for gathering of information on problems they encounter in their daily lives.

4.7. Hierarchy

In design projects that were targeted at both BOP and non-BOP people, hierarchy in the society was a barrier in effective involvement and contribution of a broad range of participants. In such projects, those who were wealthy, were having authority, or were considered as knowledgeable, were dominating the discussions, steering design projects to match their desires, preferences or ideologies. Such skewed discussions, attributed to hierarchies in the society and among those participating in design projects, have problematic effect on contribution of BOP people to design projects, making them as mere audience in co-design activities. Hierarchies, power structures, and the resulting unequal participation of BOP and non-BOP individuals were seen as leaving no space for BOP people to speak and express their views in common design tasks.

4.8. Incorrect focus

Weak engagement with the BOP people was also associated with the misalignment between their needs and aims of the projects. The designers in the study referred to projects that were primarily driven by the goals of the client company, resulting into narrow focus on areas that were irrelevant for satisfying pressing needs of BOP communities. This was prominent in some technology-driven projects, aimed at testing applications of specific technologies in BOP communities. The BOP people could not participate effectively in such projects in which there was no direct connection with their needs and problems. They were not intensely dependent on the outcomes of these projects.

4.9. Feedback volume

The designers mentioned that they received a great volume of feedback in projects that were considered by the BOP people as highly beneficial. The designers described difficulties associated with handling of large amount of feedback that they received in such projects. Sorting outcomes of co-design activities based on their value and recognising which outcomes are useful for the project were seen as difficult tasks. Selecting appropriate results that can add value to the project was deemed time-consuming and labour-intensive activity. The designers referred to their underdeveloped abilities to appropriately implement promising outcomes of co-design activities in order to gain from the efforts that they devoted to co-designing with BOP people.

4.10. Organisational support

Some of the designers referred to organisational support as having an effect on the involvement of BOP people in design activities. Organisations supporting participation of BOP people in design activities were appreciated. On the other hand, those organisations in which participation of BOP people in projects was not given priority were seen as discouraging co-design activities. Settings in which there was lack of interest and commitment, co-design activities might be carried out just for demonstration.

5. Enablers

This section presents findings on the factors that the designers considered as supporting co-design with BOP people.

5.1. Trust

The designers repeatedly described significant role of trusting relationships with BOP communities in co-design activities. When BOP people trusted the organisations, they willingly participated and shared information. Transparency in the organisation's operations and conduct both within and outside the BOP communities was expected to contribute towards building trusting relationships with BOP communities. The designers mentioned that clear articulation of aims and potential benefits of the project, without withholding any critical information that BOP communities need to know, is associated with trust building and effecting engagement with BOP people. Whilst developing trusting relationships is difficult for a new organisation, they can be developed and maintained by embarking on co-design events and participatory activities with BOP communities, changing their attitude towards organisations.

5.2. Embeddedness

The designers mentioned that becoming an integral part of a BOP community is a means by which they could effectively involve BOP individuals in design projects. BOP people perceive locally embedded organisations which work with them on regular basis as a part of their community, and not as an outsider. Local embeddedness was claimed essential to gain an in-depth understanding of needs, aspirations, and socio-cultural strengths of the community. Local embeddedness was described as crucial in planning appropriate projects aimed at addressing pressing needs of the community, while saving time and effort required in gaining access to BOP individuals, in persuading them to participate in project activities, and in managing their ongoing involvement in the projects.

5.3. Leadership and responsibility

The designers mentioned that there is a need of an actor in the organisation who takes responsibility for leading and managing co-design processes and engagement with BOP people. Motivation, charisma, and skills of such an actor were described as having a large influence on the involvement of BOP people in design activities. A co-design leader was expected to formulate project goals, assign clear roles, and continuously monitor co-design activities, while taking responsibility for implementing co-design outcomes.

5.4. Methods

The designers often described the use of suitable methods as a means to effectively engage BOP individuals in participatory activities, alleviating knowledge and socio-cultural differences that might exist between them and BOP people. Pictographic ways of communication using pictures, drawings, and sketches were frequently praised as a method by which designers could convey complex ideas and concepts, permitting BOP individuals to comprehend the concepts and share their thoughts and ideas with the designers. Just as pictographic communication was seen as an effective method to engage with BOP people and to create shared understanding between participants, so too were the narrative ways of communication using concrete explanation and examples, without using abstract discussions.

5.5. Incentives

Incentives were thought to trigger interest and influence continued participation of BOP people in design work. The designers mentioned that offering free food motivated BOP people to know more about the planned project and stimulated their participation. Such incentives influenced BOP people's willingness to share information. The projects that mattered to the BOP people and on which they were intensely dependent to satisfy their urgent and critical needs were also claimed to encourage their participation. Some of the designers mentioned that appropriate projects, targeted at pressing needs of BOP communities, are authentic incentives driving BOP people to participate, to share information, and to contribute towards exploratory and creative activities.

5.6. Feedback

Offering feedback to BOP people on how their participation and contribution to previous design work helped shape the project was considered to influence their interest in future participation. When BOP people were aware about successful impact of projects in which they participated, their willingness to participate in new projects or to contribute consistently towards ongoing projects was seen as being strengthened. In addition, results of successful projects encouraged new participants to engage in ongoing projects.

5.7. Training

The designers frequently insisted that training was a necessary means by which they could facilitate the involvement and contribution of BOP people in co-design activities. Appropriate training programmes were deemed essential to address BOP people's lack of knowledge about the process of designing solutions. The designers mentioned that they tailored the training programmes to local conditions and specificities of the target communities, while taking into account educational level, age and gender of the BOP individuals. In addition to training BOP people, the designers mentioned that training relevant staff in their organisation is also essential to effectively involve BOP individuals in design activities.

5.8. Social assets

The designers referred to the aspects of social context in BOP communities that were deemed relevant to successfully undertake co-design activities. The tendency of BOP communities to pursue shared objectives with mutual support was valued for its beneficial influence on their participation in design projects. The designers mentioned that BOP individuals support each other in a broad range of matters and rely on their social networks for information and collective activities. These attributes of social context were considered highly useful in spreading information on new projects as well as in facilitating their contribution to a broad range of participatory activities not only in design phase of a project but also in implementation of designed solutions.

5.9. Experience

With experience of participatory design activities in BOP communities, designers develop an understanding of what works and what does not work in co-designing with BOP people. The designers in the study described that their accumulated co-design experience was beneficial in identifying obstacles in participation of BOP people, and was also valuable in implementing strategies to overcome those obstacles. The designers also mentioned that they could effectively co-design with BOP individuals who had prior co-design experience, suggesting that the experience of co-design activities also helped BOP people in their participatory design activities.

5.10. Adaptation

General attributes of co-design methods were previously described as having an influence on participation and contribution of BOP people in design activities. Adapting co-design methods and procedures to the requirements and conditions of a given project was also claimed necessary to involve BOP people in the project's design activities. The differences between goals and anticipated solutions of various projects meant that the designers needed to adapt methods and strategies to gain

access to BOP people, to maintain their continued participation, and to facilitate their contribution to design activities such as requirements identification and idea generation.

5.11. Patience

The designers insisted that patience is central to involve BOP people in design projects. Working with BOP communities was considered to take more time than anticipated because BOP people have several pressing duties with greater priority than participation in design activities. The designers mentioned that they needed to be patient when they involved BOP individuals in design activities, and found a way to move at their pace. Taking a longer-term view was considered essential to work with BOP people and for building trusting relationships with them.

6. Discussion and conclusions

Of those factors that hinder co-design with BOP people, four of them relate to BOP context (knowledge deficiencies, gender, discontinuity, location, and psychosocial hardship), two relate to process and methods (incorrect focus and feedback volume), two to organisation (resource constraints and organisational support), and one relates to collaboration (hierarchy) – see Figure 1. Of those factors that support co-design with BOP people, two of them relate to BOP context (embeddedness, and social assets), three relate to process and methods (experience, methods, and adaptation), four relate to organisation (incentives, leadership and responsibility, training, and patience), and two relate to collaboration (trust and feedback).

	BOP context	Process and methods	Organisation	Collaboration
Barriers	Knowledge deficiencies Gender Discontinuity Location Psychosocial hardship	Incorrect focus Feedback volume	Resource constraints Organisational support	Hierarchy
Enablers	Embeddedness Social assets	Experience Methods Adaptation	Incentives Training Patience Leadership and responsibility	Trust Feedback

Figure 1. Barriers and Enablers in co-designing with BOP people

Some aspects of BOP context such as BOP people’s low literacy level, limited design knowledge, pressing need to find an income source, their conditions of living under constant stress and sickness, and gender-based norms in their communities were deemed as contributing factors to their inconsistent participation in co-design activities, their lack of confidence during their interaction with the designers, or unequal participation of men and women in co-design activities. Whilst some aspects of BOP context were considered as having a limiting effect on co-design activities, other aspects, such as local embeddedness and tendency of BOP communities to pursue shared objectives, were considered as supporting their participation in design projects. Likewise, some aspects of processes and methods, such as misalignment between project-goals and needs (e.g. when BOP people considered the projects as irrelevant) and lack of methods to handle a great volume of feedback (e.g. when projects were considered as highly beneficial), were seen as having a limiting effect on their participation in design projects or on identifying relevant and useful feedback. On the other hand, aspects of processes and methods, such as the use of pictographic and narrative methods of communication, adapting co-design methods to the specificities of a given project, and experience of undertaking co-design activities with BOP people, were deemed as supporting participation of BOP people in design activities.

Whilst some organisational aspects, such as budget-constraints, limited resources, and absence of commitment to co-design activities, were thought to restrict participation of BOP people in design projects, other organisational aspects, such as incentives, allocation of responsibility to someone in the organisation to lead and manage co-design activities, suitable training programmes for BOP people as well staff in the organisation, and patience to move at BOP people's pace, were deemed as supporting their participation co-design activities. Just as some organisational aspects were thought to support or hinder co-design with BOP people, so too were aspects associated with collaboration. For example, hierarchies and power structures in the society and among those participating in design projects were deemed as affecting collaboration, with problematic effect on contribution of BOP people to design projects. Trusting relationships with BOP communities and offering them feedback on how their participation in previous projects helped shape the project and its performance were thought to support co-design with BOP people.

As with any research, this study has some limitations, providing opportunities for future research in this field. Although the retrospective method of interviews has some limitations (e.g., designers' ability to recall events), it allowed gaining data from designers working in a broad range of sectors. Further studies can gain from using real-time methods such as ethnographic participation, shadowing, or observations. Whilst this study benefited from using qualitative inquiry, future research might benefit from employing quantitative approaches and methods, such as experiments, questionnaires, etc. (Frankfort-Nachmias and Nachmias, 1996), or from employing both qualitative and quantitative approaches to portray an inclusive and comprehensive picture co-design activities in this field. Whilst we collected data in India, future research can aim at investigating barriers and enablers in co-designing with BOP people in other countries, specifically in a range of countries in the 'least developed' group from the Development Assistance Committee's categorisation of developing countries (DAC, 2016). Further research can also be aimed at comparing barriers and enablers across contexts with sharp contrast, e.g. developed countries and marginalised societies in developing countries.

To summarise, this research study has explored some important aspects of co-design in the context of marginalised societies in developing countries, making important contribution towards the design literature. Based on interviews with the designers, the study revealed a broad range of organisational, contextual, collaboration-related, and process-related barriers and enablers in co-designing solutions with BOP people. While the study is exploratory in nature, it has generated design knowledge in a field that has received little research attention and appears to be geographically and psychologically remote for many design academics, students, and practitioners. Further design research is clearly needed to better understand co-design in this field. We hope that our work will encourage other researchers to join us in investigating how to co-design solutions with marginalized communities around the world, supporting this long ignored and worthy socioeconomic context.

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