

# Stanford SOCIAL INNOVATION Review

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## *Features*

### **Time to Scale Psycho-Behavioral Segmentation in Global Development**

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Stanford Social Innovation Review  
Fall 2018

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→ Most global development programs still segment people by demographics when trying to change their behavior. We must learn from the private sector and segment people based on the reasons behind their actions, so that we can talk to them in ways they will listen.

# Time to Scale Psycho-behavioral Segmentation in Global Development



Two momentous and unexpected political outcomes defined 2016 for many Americans and Europeans: the election of Donald Trump as president of the United States and the United Kingdom's vote to leave the European Union. Both events had one thing in common: The winning campaign used Cambridge Analytica, a then-obscure communications firm. Its secret? Sophisticated consumer segmentation.

The firm divided large populations into nuanced groups based on personality traits that could be inferred from each individual's online data, such as Facebook activity. With that information, it could send tailored campaign messages to people that resonated with their most personal biases, fears, and desires. Academic studies of the algorithm underlying Cambridge Analytica's work have shown that it was more successful at judging the personality traits of an individual than her own friends or colleagues.<sup>1</sup> While the company's true impact on voter behavior remains uncertain and may be exaggerated,<sup>2</sup> the story thrust consumer segmentation into the spotlight as more than just a marketing tactic.

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Illustration by Robin Hursthouse



The private sector has long understood that people buy or reject products and services for different reasons. In the 1960s, market-research pioneer Daniel Yankelovich noted that segmenting customers only by demographic factors, such as age, income, or geography, is not enough, and argued for differentiating people by their behaviors and the drivers behind them.<sup>3</sup> In what became known as *psycho-behavioral segmentation*, companies began dividing people into groups based on *what* they do—in other words, their behaviors—and on their motivations, beliefs, and other factors influencing *why* they behave the way they do.<sup>4</sup> Psycho-behavioral segmentation has been shown to be superior to demographic segmentation at creating distinct, meaningful segments.<sup>5</sup> This is important because segmentation must capture clear, discrete (as nonoverlapping as possible), relevant (to the behavior of interest), and actionable differences within populations. Only then do targeted messages or interventions have the best chance of success.

Marketers nowadays invest a significant amount of time and money to deepen their understanding of their customers, including their behaviors, beliefs, emotions, unconscious biases, and social norms. For instance, Red Bull tailors its drink offerings to people differentiated not only by demographics, but also by level of brand loyalty, drinking habits, and lifestyles. Companies have made segmentation core to their approach because it improves their bottom line.

In developed countries, psycho-behavioral segmentation has also shown promise in several policy areas. In 2017, the Royal Institute of International Affairs in London divided the European public into six distinct segments based on their attitudes toward refugees. This has enabled researchers to track these segments over time and characterize their key drivers, including real-world concerns about economic, cultural, and security issues, as well as the emotions and attitudes influencing them.<sup>6</sup> In Switzerland, consumer researchers have used psycho-behavioral segmentation to better understand consumer habits and attitudes around energy consumption, with an explicit call that this kind of research should inform policy.<sup>7</sup>

In the United States, public health researcher Edward Maibach used psycho-behavioral segmentation to create detailed insights and messaging for climate-change campaigns. To illustrate, a segment called Alarmists “tended to be religious, low SES [socio-economic status], minority women who were politically disaffected” and perceived high levels of risk. Conversely, Optimists “tended to be high SES, white, nonreligious, conservative, Republican urban men” who considered the hazards of climate change as relatively low risks to the United States. This profiling could then be used to target messages and suitable channels to each segment. For example, Optimists are likely to respond to messages about energy independence and the economic benefits of conservation, and are best reached through newspapers and the Internet.<sup>8</sup>

While these studies have, to our knowledge, shaped discussions among policymakers, their findings have not been adopted by large-scale programs, and so we consequently lack a rigorous evidence base demonstrating their impact on behavior change. What’s more, quantifying the impact of psycho-behavioral segmentation is notoriously difficult, for several reasons: The link between segmentation approaches and behavioral outcomes is difficult to disentangle experimentally; the private sector does not typically disclose impact evaluations; direct comparison between segmentation approaches

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is not the main priority of public health programs; and such evaluations need larger sample sizes than academia typically handles. But signs of promise are available. The clearest demonstration of the effectiveness of psychological targeting recently came from experiments in the online purchase behavior of millions of people. When purchase appeals were matched to personality-based characteristics of individuals, purchases increased by up to 50 percent compared with mismatched or nonpersonalized appeals.<sup>9</sup>

By contrast, psycho-behavioral market segmentation is largely missing from global development programs, despite calls to adopt it from public health researchers and social scientists.<sup>10</sup> Segmenting the customers of programs offering health interventions such as contraceptives, vaccines, or circumcision is usually limited to socio-demographic characteristics such as age, religion, race, and geography. Broad divisions between such groups as “adolescents” or “pregnant women” are the norm, but who would argue that all adolescents or all pregnant women are driven by the same motivations? This question is especially poignant today, as most development programs have been successful in developing such solutions as new drugs or vaccines, and in delivering health services even to the most remote locations, yet falter when faced with people who don’t access services or adopt behaviors that will improve their lives.

This deficiency needs to change. In what follows, we address this surprisingly sparse use of psycho-behavioral segmentation in global development. We describe and analyze the few examples where this approach has been implemented in large-scale programs, including our own, and distill the lessons learned. Then we provide a set of recommendations for how to scale the use of psycho-behavioral segmentation and call on the global development community to invest in building the evidence base to apply what we already know from the private sector: that understanding why people make decisions is the most effective way to change their behavior and improve their lives.

## CASE STUDIES FROM GLOBAL DEVELOPMENT

The use of psycho-behavioral segmentation in global development programs is still nascent, and the impact of many programs has not yet been collected or fully analyzed. But the studies that do exist provide important insights. Below, we provide an overview of major case studies, collated from literature reviews and discussions with stakeholders in the sector.

**HIV in Tanzania** | *Stanford Social Innovation Review* has recently published qualitative segmentation approaches developed by Aarthi Rao at CVS Health and Sandra McCoy at the University of California, Berkeley.<sup>11</sup> The authors use qualitative methods, such as observation and “journey mapping”—tracking behaviors and attitudes over time—that are influenced by design thinking, market research, and behavioral science. That way, differences in barriers to and drivers of HIV treatment in rural Tanzania, as well as potential target channels of influence, can be identified. The work generated imaginative

solutions tailored to some specific drivers. For example, where social stigma impeded taking medication, more unobtrusive pillboxes could ensure greater privacy. However, the small-scale qualitative nature of the research limited the patterns that the segmentation could detect.

**Female health in multiple countries** | The Bill & Melinda Gates Foundation funded segmentation studies of women between 15 and 30 years old in seven countries that sought to develop strategies to drive six priority female health behaviors. They were knowledge of HIV status, use of condoms, delay in sexual debut, use of modern contraceptives, giving birth in a health-care facility, and seeking modern medical care for sick infants. But the segments generated could not be translated to effective segment-specific programmatic strategies to drive the relevant behaviors. The study's design was flawed: Rather than developing segments for a specific behavior (e.g., use of condoms), researchers developed general segments for "female health" that lumped together several behaviors, with each behavior likely to have a different set of drivers. For example, it is unlikely that segments for the use of modern contraceptives are the same as those for institutional delivery.

**HIV in Malawi** | A well-designed quantitative study was done in Malawi to target HIV-prevention interventions more effectively. Quantitative studies are needed because they make population-wide patterns visible through statistical and machine-learning segmentation methods. The study asked 1,000 people about their perceptions of risk and their self-efficacy, defined as the belief in their personal ability to take action. Both of these concepts have been shown time and again to influence many health behaviors. Demographic variables, knowledge of HIV, and behaviors such as condom use were also collected.

The study produced substantial actionable insights. When looking at these two variables—risk perception and self-efficacy—people fell into one of four groups: low-low, high-high, low-high, and high-low. Each combination had implications for other attitudes and behaviors. For example, someone with high risk perception and high self-efficacy is more likely to act. The study demonstrates how behavioral, attitudinal, and demographic variables interact: More than half of female respondents were "avoidant" (high risk perception but low self-efficacy), whereas males were predominantly "proactive" (low risk perceptions, but a healthy dose of self-efficacy).<sup>12</sup> Implementers could therefore use such data to create different types of messages for men and women (in this case, differences in attitudes happened to align with demographic differences) or conclude that some segments would benefit from more awareness about HIV.

This research influenced Malawi's BRIDGE project, a mass media communication campaign funded by the US Agency for International Development (USAID) to encourage HIV-prevention behaviors such as condom use. But the work has not, to our knowledge, been extended to other programs or contexts, even though it offers relatively generalizable lessons in how to design the research and the resulting messaging. The field of HIV communication is ripe for segmentation: A few years before the Malawi study, a systematic review of mass media interventions on HIV-related behaviors showed that not a single communications campaign segmented its audience.<sup>13</sup>

In addition, two global development areas are currently at the leading edge of integrating psycho-behavioral segmentation into

their programs: family planning and voluntary medical male circumcision in Africa.

**Family planning in Niger** | A recent study aimed to encourage Nigerien women to adopt family planning practices in a particularly difficult context. Niger ranks lowest on the human development index, yet both women and men desire large families and the country has the highest fertility rate in the world. Conducted in collaboration with government, donors, and NGOs, the project discovered wide variations in women's needs, attitudes, and behaviors around family planning, and made the case that in this highly resource-constrained setting, focusing on women most willing to change their behavior would provide the greatest return on investment.<sup>14</sup> A quantitative survey of 2,000 respondents funded by the William and Flora Hewlett Foundation and designed by Camber Collective generated five psycho-behavioral segments. These groups of women differed from each other in their use of contraception, how proactive they were in obtaining information or products, their perception of social norms, their levels of autonomy, and other attitudes and beliefs.

The program determined that three of the segments presented the best opportunity, based largely on how program leaders with knowledge of the population estimated their propensity to change behavior. In contrast, a segment of "conservative passives" could be de-prioritized. Their barriers to action were more difficult to address, because they concerned perception of religious prohibition, a deep desire for permission from their partners, and a general passivity toward seeking such services, despite being very aware of the different options available. The research findings provided a rich base for understanding each of the segment profiles, and helped direct government and local implementing partners to priority segments with tailored communications and programming.

As in the Malawi study, the Niger program did many things right: Segmentation incorporated a variety of demographic factors, behaviors, and drivers that influenced behavior. Both studies focused on prioritizing segments to target, based on how likely they would be to change their behavior. In addition, the large-scale quantitative study in Niger was informed by previous in-depth qualitative research featuring men, women, and health-care providers. The government of Niger with its partners has also started translating these findings into strategies at two levels. Nationally, they are using the results to develop a behavior-change communication campaign with different messages directed to different segments of the population. In clinics, health workers are identifying which segment women fall into and providing appropriate messaging. The program is currently evaluating whether these strategies are leading to more women using contraceptives. This study is also now being extended into Côte d'Ivoire and Burkina Faso.

**Circumcision in Zambia and Zimbabwe** | The other most comprehensive example of psycho-behavioral segmentation applied at national scale is in the voluntary medical male-circumcision programs in Zambia and Zimbabwe, where segmentation provided a nuanced understanding of why men decide whether or not to get circumcised.<sup>15</sup> In that study, we (the authors of this article and colleagues) used validated concepts from behavioral science to create the basis for segmentation.<sup>16</sup> In the qualitative phase, we used a variety of methods such as journey mapping and group decision-making games to identify biases, emotions, motivations, and beliefs, which informed

a national quantitative survey. As a result, we were able to create a simple “segment typing tool”—a short decision tree, using simple rating questions with a high level of predictability for categorizing people—to help frontline workers classify men while speaking with them and then engage in real time with the appropriate messages and interventions.

The insights from the research revealed the underlying drivers (often psychological barriers) behind a man’s decision to get circumcised or not. Using these deep insights, we developed specific interventions to target each driver. For example, some segments of men wavered because of fear and uncertainty about the pain of the procedure and healing process. Previously, the programs tried to avoid communicating with men about the pain for fear of scaring them away. However, men needed honest communication about the procedure and conceptual anchors for understanding what type of pain was felt and with how much intensity at each point of the surgical and healing processes.

Each of the programs in Zambia and Zimbabwe developed a “pain-o-meter” concept to be used by the frontline workers with men in the field. Each of these interventions provided picture-based conversation starters for the frontline workers to use as they talked men through the pain that would be felt: The initial anesthetic injection would feel like a thorn prick of moderate intensity; during the surgery, almost no pain; immediately after the surgery, moderate throbbing pain; and during the salt wash, moderate burning pain (like hot peppers). By dampening the uncertainty, the communication lowered their risk perceptions and provided concrete expectations, including ways to cope with the pain at each stage.

Other interventions developed in Zambia included an updated flip chart with segment-targeted messaging, a “true-or-false wheel” (like a game-show wheel) to discuss myths about circumcision, a “procedure walk-through” game to dispel uncertainty about the process for those segments plagued by doubts about the procedure, and a jar with a level marker at 60 percent full, used to show that circumcision is 60 percent effective against HIV. An integrated approach using these interventions is currently being piloted and evaluated.

In both Zambia and Zimbabwe, segment-targeting messaging and intervention have been adopted into their national circumcision-communications strategies, including mass media campaigns. Both programs have started to pilot the segment-typing tool, along with targeted messaging and communications, with encouraging (but so far unpublished) results. Segments are also used to reset programmatic targets based on factors such as ease of conversion of the behavior and potential impact gains. In Zimbabwe, for example, a segment we called “Enthusiasts” represented a big opportunity, as they were still uncircumcised but believed in the benefits of the procedure and so were likely to choose it. They just needed a little extra support to assuage their concerns.

## OBSTACLES TO ADOPTION

Collectively, the handful of examples above provide valuable lessons to the field. Just as important, they highlight key challenges that stand in the way of making psycho-behavioral segmentation a common approach for driving behavior change. Why, despite robust academic research and private sector evidence that it works, is the

development sector not integrating psycho-behavioral segmentation into large-scale public health programs? There are several reasons.

**Limited understanding at the highest levels** | First, governments, donors, and program managers generally don’t appreciate the enhanced value of psycho-behavioral segmentation. Development partners, and especially governments, are accustomed to thinking about populations in terms of demographic and regional segments. Demographic data such as age, occupation, and education are routinely collected, and such visible divisions are easy to segment further. Geographic segmentation is also easy for them to implement because it aligns with existing administrative and programmatic divisions.

From our experience, partners often struggle to understand the upside of the approach. If they have never seen it implemented before, they find it difficult to see how to translate insights into program strategies that can be implemented on the ground. Selling the idea to first-time users can take time. In Niger, for example, the William and Flora Hewlett Foundation and their partner Camber Collective had discussions with governments and partners for more than three years before the research could be implemented.

**Limited skills on the ground** | Another barrier is the limited number of people with experience in the segmentation process, including the steps and resources needed. Few have knowledge about the types of variables and data needed to measure attitudes and behavior. Most important, there is a lack of technical skills needed to apply the methodical approaches to collect suitable data and analyze it. It is a challenge—especially in more resource-poor countries such as Niger and Zambia—to find local capacity to collect the type of data, at the scale needed, to do psycho-behavioral segmentation (in both countries, surveys were at the national level). Local agencies, especially those more oriented to marketing research for companies, are often not experienced or equipped to collect sensitive data such as sexual behavior for family planning or HIV prevention. They are also unfamiliar with more novel qualitative methods such as journey maps and decision games. In both cases, the international team leading the segmentation study labored over quality control and capacity building.

**Burden of translating insights into action** | Generating psycho-behavioral segments and developing programmatic strategies and recommendations are not enough. There is also the challenge of transferring the findings into large-scale programs. There are several reasons for this. First, the right stakeholders—donors, implementers, and eventual users of a segmentation solution—need to be engaged from the very beginning, so that they eventually see value in using the insights and recommendations in their programs. These are often those responsible for designing and implementing the programs. In the case of the female health segmentation study, government workers and implementing organizations on the ground were not engaged until the results were finalized. As a result, the segmentation design did not incorporate their specific programmatic needs, and they did not feel ownership of the work.

Second, the insights and program strategies need to be very specific, easy to implement, and scalable. Otherwise, programs cannot design focused solutions, will encounter large obstacles in deploying them, and will have only small-scale impact. In the female health segmentation study, the segments were not differentiated enough

to home in on female health behaviors, and so no solutions were deployed. Designing the segment-specific interventions is not trivial—it requires time and design.

Third, programs need continued support beyond the initial design phases to ensure adequate implementation. We found that we needed to work closely with the program partners to privilege segments based on their programmatic priorities, design specific interventions to be implemented, and develop tools to ensure that the interventions worked.

### LESSONS FOR PROGRAMS

Segmentation is a realistic approach for any program, but it requires a team of people with several important qualities: deep knowledge of the behavior in question; expertise in behavioral science, diverse research methods, and advanced statistical analysis; and experience in translating insights into practical interventions on the ground. Based on the available case studies, we have discerned five general lessons to help ensure a robust and impactful segmentation project.

**Engage people early on** | We recommend rigorous, directed, and persistent engagement with the right stakeholders from the very beginning of the process, including donors, governments, and implementing partners. We found it especially important to work closely with the key decision makers and the implementers who would use psycho-behavioral segmentation on the ground in their programs, to aid the design of instruments and surveys. Aligning on priorities and goals early on helps ensure the buy-in of decision makers, the timely building of capacity, and the eventual adoption of the program.

In Zambia and Zimbabwe, we invested many months of discussions with the government and implementing partners to explain the study and persuade them. As a result, other countries and programs have started requesting the approach; for example, segmentation is now being applied in South Africa for HIV prevention. For circumcision, segmentation is now being planned in several countries. After seeing the family planning example in Niger, neighbors Burkina Faso and Côte d'Ivoire requested implementation in their countries.

**Decide whom and what to segment** | Any group of customers whose behavior we want to understand can in principle be segmented (unless the demographics, behaviors, and attitudes of each person are identical). For example, in our research in Zambia and Zimbabwe, we segmented men eligible for voluntary medical male circumcision on the factors that influenced how likely they were to agree to the procedure.<sup>17</sup> In our ongoing reproductive, maternal, and child health program in Uttar Pradesh, India, we are segmenting women based on what drives them to use contraceptives and which ones, and segmenting households on their attitudes and behaviors regarding lifesaving interventions for mothers and babies, such as prenatal care and institutional delivery.

Not all providers are the same; they also fall into segments. Behavioral drivers such as motivation or beliefs play a significant role in how they engage with and influence customers. Therefore, to provide more targeted and effective support to providers (e.g., through training, motivational nudges, and management support), we are segmenting frontline workers in Uttar Pradesh, nurses within government facilities, and informal providers. To our knowledge,

this is the first time that psycho-behavioral segmentation is being applied to providers in the context of global development.

After choosing whom to segment and what you want to understand about them, you should consider the basis for your segmentation: What are the most likely attributes that differentiate groups from each other? In the female health segmentation study, women were segmented based on behavioral drivers that influence healthy or unhealthy decision making. But the segmentation was applied across too many outcomes that likely had common but also unique behavioral drivers. This lack of specificity over “what” they were segmenting produced segments that were essentially useless.

**Decide how to segment** | To start the segmentation process, it saves time to use existing data to your advantage. Mine the literature and any qualitative or quantitative data sets available that can help fill in the gaps of what you want to find out. If you need to start from scratch, we recommend going into qualitative depth first and quantitative breadth second. Qualitative research enables you to experiment with different ways to ask a question and to listen to responses in real time. Therefore, you can use it to get to know better whom you are segmenting before designing a large-scale survey.

We recommend using a mixture of several qualitative methods to counterbalance their strengths and weaknesses. Journey mapping tracks behaviors and attitudes over time but does not allow for easy testing of “what if” scenarios; in-depth interviews can give detailed insights but are prone to many biases; and focus groups are time- and cost-effective but obscure individual differences. Direct self-reporting can be supplemented by observations and decision-making exercises.<sup>18</sup> Observations track people’s behavior in their natural environment, and decision-making scenarios aim to test underlying drivers of behavior by analyzing hypothetical choices that people make under controlled conditions. The deep insights emerging from a mix of qualitative methods can then form the basis of a robust quantitative survey or experiment, through which meaningful patterns can be detected.

After collecting a rich data set of quantitative responses, you can construct segments using machine-learning techniques such as cluster analysis, which reveals which data points are close to each other (forming a segment) or far apart. It is tempting to pass this task to a competent data scientist or statistician to manage. But even at this stage, input from the designers and implementers is invaluable, because analysis benefits from knowing the real-world context of what the segmentation tries to achieve and how it is to be used. For example, there is no unambiguously optimal number of segments; often, a population will split into 2 groups just as readily as 3, 5, or 20. However, 20 groups might be useless if the differences between them are small, or if implementers already know they will not have the means to target people in that many different ways.

**Prioritize** | The value of segmentation resides partly in the ability to prioritize which people to target, since programs do not have unlimited resources. We have found the following three criteria for choosing between segments useful:

*Ease of conversion.* Segments of people who are on the fence, have easily addressed concerns, or are simply unaware of what to do are more likely to act on a message than those who are held back by structural obstacles or are extremely hostile to

the behavior. For example, in the Niger study on family planning, it was hardest to persuade a segment of women who said contraception went against their fundamental values.

*Segment prevalence.* Segmentation analysis will allocate each respondent to a segment. If segment A consists of 60 percent of the population and segment B consists of 2 percent, programs would probably waste their money trying to address segment B before others.

*Segment impact.* Would changing one segment likely have a disproportionate effect on the entire group of potential customers? For example, would influencing a segment of highly connected social advocates also influence other segments? If so, there is reason to prioritize that segment. Similarly, targeting the segment of people engaging in the riskiest behavior could have greater impact overall.

**Translate insights into interventions** | Once you understand why people in your priority segments behave the way they do, the next step is to develop messages and interventions suited to those reasons. In Zimbabwe, for example, we found six different segments of men based on whether they would get circumcised and why. In the segment we called “Enthusiasts,” men tended to believe in the health and sexual benefits of voluntary medical circumcision, emotionally associate it with a sense of achievement, engage in a relatively high level of risky sexual behavior, and require social support to overcome some fears and go for circumcision. In contrast, men in a segment we called “Embarrassed Rejecters” were, as the name suggests, only weakly motivated to get circumcised.

Such insights can then be translated into messages that ring true. This can be done through mass communication campaigns or one-on-one conversations using segment-typing tools that, through a series of questions, help field workers allocate a person to a likely segment. For example, if members of the segment fear that a surgical procedure will fail, a simple step-by-step description of the procedure could be enough to encourage action. Conversely, if the main driver is a fear of violating social norms, a communication campaign could emphasize how easy it is to keep the new behavior private.

## RECOMMENDATIONS FOR THE FIELD

Development sector leaders are not adopting psycho-behavioral segmentation, despite case studies from both the private and development sectors indicating that it could help them be more effective. Even in developed countries, demographic segmentation has stubbornly persisted. Comparing the promising case studies with the obstacles present in the field shows that we need governments, donors, and implementing partners to come together to make psycho-behavioral segmentation a common practice. There are a number of critical steps that should be taken.

**Build the evidence case** | Donors need to step up and invest in more case studies that apply this approach at scale and highlight its impact. As we’ve observed with family planning and circumcision, countries that see segmentation being used successfully elsewhere are quick to ask for support in applying it as well.

We also recommend building the evidence to demonstrate how this approach can lead to better results. For organizations in the development sector, it’s not feasible to measure impact based on health outcomes, because so many factors go into achieving better health that it would be nearly impossible to attribute any change in impact to psycho-behavioral segmentation. A more pragmatic approach to evaluation needs to be taken, and one option is to develop and measure interim milestones. In the same way that a primary care program would measure the number of infants immunized, program leaders can structure measurement and evaluation to focus on such elements as the number of people who changed their behavior and took the action needed in response to a segment-based intervention versus a one-size-fits-all campaign. Another important suite of milestones could be changes in the drivers of this action, such as knowledge and beliefs.

**Create demand** | In many ways, we need to change the behavior of the leading actors in the sector. Among governments, donors, and implementing partners, this needs to happen both from the bottom up, originating in project proposals from implementers, and from the top down, as governments and donors request implementers to use this approach. Memorable case and evaluation studies are one way of promoting the value and impact of segmentation in a resource-constrained setting, but an active and targeted advocacy strategy is also needed, especially by stakeholders who have applied this approach and who can speak from their experience. The application of psycho-behavioral segmentation and its value should also become part of the global-development discourse—for example, through a push from donor organizations, who are likely to be more innovative and who fund and oversee programs across multiple geographies and development areas.

**Prepare the sector** | Frameworks and tools are needed to facilitate, streamline, and enable the scaling of psycho-behavioral segmentation—from the initial design of the study to the design and implementation of segment-specific interventions. These tools should focus on three key components: helping programs select the right variables to segment on, making it easier to utilize existing data for new programs, and translating findings into actionable interventions.

The design of a robust segmentation study needs to be grounded in sound behavioral science. The lack of a common, comprehensive, and translational behavioral framework that determines the full set of reasons why people behave the way they do, how to measure them, and how to link them to suitable interventions makes it challenging. While there are many robust behavioral theories, most focus on only a few key aspects of behavior change or do not provide guidance on the most suitable methods to measure the drivers of behavior.

An example of a useful evidence-based standard is the Integrated Behavior Model, where intention is the final step toward whether a person acts or not, and is in turn driven by beliefs about whether a behavior would result in a good or bad outcome, how strongly one would be judged for taking an action, and whether one has the self-efficacy to achieve it. However, there is little emphasis on unconscious biases or habit building. Another instructive standard is the Transtheoretical Model, which divides the path to a behavior into stages over time: from becoming aware of an action, to con-

templating the pros and cons, to forming an intention, to acting, and finally to maintaining the new behavior or not. Distinct factors are important at each stage, so touchpoints and messaging would be different as well.<sup>19</sup>

We need a framework that integrates all critical components of behaviors—the decision-making path, internal drivers, and contextual drivers—and that accounts for differences between individuals. To address this, Surgo Foundation is developing a comprehensive model of behavior, based on a synthesis of the best available evidence, as well as methodological guidance on how to collect the variables to feed into a segmentation study.

**Scale up** | Once a segmentation study is implemented in a development area, such as family planning, we recommend using the existing surveys to enable scale-up in other geographies. Differences in context, population characteristics, and program strategies and implementation to date make it necessary to develop country-specific segmentation solutions, based on quantitative data. However, previously developed segmentation surveys could be adapted for the new context by considering any contextual differences and need not be designed *de novo* each time. The circumcision segmentation surveys in Zimbabwe and Zambia, for example, formed the basis for making minor necessary updates and then collecting and modeling the data for any other country. Sharing of full surveys is often limited between programs; we recommend a platform to expand sharing.

We also recommend developing tools that would enable the translation of segmentation results into programmatic interventions. In circumcision, for example, portfolio-mapping tools were developed to provide programs with an efficient way to map their current program intervention portfolios against the key drivers (facilitators and barriers) for adoption identified by the research. The result of this process provides a simple map showing which drivers are currently being addressed by the program and where key gaps remain. With the segmentations in hand, we provided simple persona tools to help programs efficiently profile each of their segments on key reasons why men will or won't get circumcised, to better target those drivers.

**Build local capacity** | Finding the right people with the right skill sets for psycho-behavioral segmentation in development programs is exceedingly difficult. Segmentation requires knowledge of behavioral science, quantitative and qualitative research methods and analytics, and deep expertise in the field. Therefore, we need to actively connect development experts with the people who have the requisite skills in behavioral science and help them speak each other's language. To make this approach truly scalable, over time we need to build local capacity in countries. This requires that the center of gravity for psycho-behavioral segmentation eventually move to developing countries. At Surgo, we are building tools and a network of partners to help programs find the expertise they need and become better consumers of this approach.

## ACCOUNTING FOR PEOPLE

Development programs are woefully underutilizing the potential of psycho-behavioral segmentation that can help people live healthier lives. It's time to recognize the extraordinary advantages of accounting for differences in what drives people to act as they do. Resources can then be targeted to the groups of people who are most likely to

change or whose change has the biggest overall impact, using interventions that will most effectively induce behavior change.

Our recommendations combine the strengths of an evidence-based approach with the focus on pragmatic implementation already perfected by the private sector. They do not demand too much of programs. On the contrary, we encourage them to utilize the resources and knowledge that we have distilled here to understand their customers not as one homogeneous audience, but as people driven by varying contextual factors and social norms, beliefs, emotions, and unconscious biases. In all global health and development issues we are tackling today, shifting human behavior is critical. Doing this in a smart way where we account for differences between people is essential. ■

## NOTES

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