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Mental Modeling

A Qualitative Method for Mapping Audience Behaviors and Designing Social Marketing Initiatives

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Abstract: Social marketing often applies commercial marketing approaches to programs intended to improve the social welfare by changing individuals' beliefs and behaviors. We present Mental Modeling, a commercial approach to market research and audience segmentation that has not previously been applied in a social marketing context. We discuss the application of this methodology within an organization focusing on changing employers' perceptions and behaviors around hiring and retaining individuals with disabilities. First, we describe approaches to social marketing broadly and present the Mental Modeling methodology. We then discuss interpretation and application of the model to the development of an improved, data-driven approach to social marketing for our target audience.

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INTRODUCTION

APPROACHES TO RESEARCH FOR SOCIAL MARKETING

Since its definition in the early 1970s (Kotler & Zaltman, 1971), social marketing has focused on the application of commercial marketing principles and technologies to programs designed to influence behaviors in order to improve personal or social welfare of a target audience (Andreasen, 1994). Social marketing uses a combination of education, tactics to increase motivation to act, and social pressure to influence audience behaviors (Andreasen, 1995).

Despite increasing use of social marketing and evidence of its effectiveness (e.g., in public health campaigns and to promote environmentally sustainable behavior (Cheng et al., 2011; McKenzie-Mohr, Schultz, Lee, & Kotler, 2011)), there continue to be challenges inherent in applying traditional marketing approaches to social contexts. These challenges span the marketing life cycle from conceptualization and research to campaign implementation (Bloom & Novelli, 1981).

In particular, social marketing seeks to influence behaviors that are fundamentally more complex than those targeted by traditional marketing. Individuals' decisions to smoke, use contraceptives (Cheng et al., 2011), or engage in environmentally sustainable behaviors (McKenzie-Mohr et al., 2011) are influenced by a wide range of factors (e.g., personal, contextual, familial, cultural). It can be difficult to identify these factors and to then determine which are key to target in a social marketing campaign (Bloom & Novelli, 1981).

There is often the added complication that “upstream” policies, structures or context may support or inhibit individuals’ behaviors (Andreasen, 2006). For example, a campaign to increase contraceptive use among women in rural India may need to address the “downstream” issues of women’s and communities’ attitudes toward contraceptive use, but it must also address upstream factors such as access to medical care and funding for women’s programs, if it is to have the desired result. Thus social marketing campaigns must also often account for both up- and downstream determinants of behavior (Hastings & MacFadyen, 2000).

Market research plays a critical role in understanding complex audience behaviors and the upstream context, however, there is often very little existing data available to inform social marketing campaigns (Bloom & Novelli, 1981). Primary research for social marketing may be difficult because it often addresses “high-involvement” behaviors – those about which people care a great deal and for which they perceive risks to changing. Individuals are often reluctant to discuss these sometimes highly personal topics candidly with researchers (Andreasen, 1995).

Though challenging, market research is undoubtedly key to formulating an effective social marketing campaign (Cheng et al., 2011). There is, however, ongoing debate as to the research methods that are most appropriate. As with socio-behavioral research more broadly, this debate often centers around the use of positivist versus social constructivist approaches (Goulding, 1999). The positivist approach posits that reality is external and objective and the researcher is independent of the phenomenon under study, while the social constructivist approach holds that reality is socially constructed and the researcher is a part of the observation. Generally, positivist approaches generate and test hypotheses, while constructivist

approaches draw conclusions inductively from data (Easterby-Smith, Thorpe, & Lowe, 2002). Fewer initial assumptions are made in the contextually-focused constructivist approach. In the context of social marketing, a positivist might attempt to measure the prevalence of smoking among teens and to examine the demographic and other characteristics that are related to smoking, while a social constructivist might attempt to understand why teens are deciding to smoke and the social context in which they are doing so.

While positivist approaches have long been used in market research to identify audience attributes, size and distribution (Iacobucci & Churchill, 2009; Mitchell, 1994a; Thompson, Locander, & Pollio, 1989), since the 1980s there has been increasing interest in constructivist approaches as a tool to generate detailed information on audience members and audience behavior, with fewer initial assumptions (Goulding, 1999, 2005).

We present Mental Modeling¹ (Young, 2008), a constructivist methodology closely resembling phenomenology (see Thompson, Locander, & Pollio, 1989), that has not, to our knowledge, been applied to social market research. We illustrate the methodology in detail, using an example of its application in early-stage social market research for a U.S. Department of Labor, Office of Disability Employment Policy (ODEP)-funded Center at Cornell University concerned with educating and influencing the behaviors of employers toward employees and job applicants with disabilities.

¹ Please note that this use of the term “Mental Model” is distinct from and unrelated to its use in cognitive science (e.g., Craik, 1943; Johnson-Laird, 1986).

RESEARCH CONTEXT: EMPLOYMENT OF PEOPLE WITH DISABILITIES

The Americans with Disabilities Act (ADA) of 1990 extends to people with disabilities, similar protections as afforded to women and persons of color by the Civil Rights Act of 1964, and was intended to increase inclusion of individuals with disabilities in virtually every aspect of American society (Hernandez, Keys, & Balcazar, 2004). In particular, Title I of the ADA prohibits discrimination against individuals with disabilities in employment.

Despite the ADA's employment provisions, the employment rate for working age individuals with disabilities continues to be less than half that of individuals without disabilities (Erickson, Lee, & von Schrader, 2012) and workers with disabilities have lower average pay and less job security than workers without disabilities (Schur, Kruse, Blasi, & Blanck, 2009). There is evidence that these disparities are at least partially attributable to exclusionary corporate culture and to employers holding inaccurate stereotypes about people with disabilities (Bruyere, Erickson, & Van Looy, 2000; Lengnick-Hall, Gaunt, & Kulkarni, 2008; L Schur et al., 2009). These attitudinal barriers in the workplace have led some to argue that the transformation of corporate culture and individual attitudes toward people with disabilities in the workplace is a key component of improved employment outcomes for individuals with disabilities (Brostrand, 2006).

The Employer Assistance and Resource Network (EARN) is part of the National Employer Technical Assistance Center (NETAC) currently funded to Cornell University by ODEP. EARN's mission is to support employers in recruiting, hiring, retaining and advancing qualified individuals with disabilities, and in doing so to improve employment opportunities and outcomes for individuals with disabilities. Currently this is accomplished through an

informational website, regular newsletters and updates, staff on-call to provide responses to employer questions, individualized consultations and training.

We undertook market research in this context in order to: 1) better understand the full range of activities in which employers encounter disability, 2) identify when and how employers are currently seeking information related to disability in the workplace, and 3) better understand employer perspectives on job applicants/employees with disabilities. Our ultimate goals, in line with social marketing principles, were to understand areas in which employers were in need of education or information (both from their perspective and from ours), to identify what motivates them to seek information when they did, and to determine whether and how they ultimately apply any information they obtained to the workplace. We intended to use this information to ensure that our materials and services were targeted to employer-relevant topics, were promoted in ways aligned with existing employer information-seeking behaviors, accounted for upstream factors influencing employers, and were actionable in the context in which employers were operating.

Recent large-scale social marketing campaigns for disability inclusiveness (e.g., *Think Beyond the Label* and *What can YOU do?*) have used television and print advertising campaigns in an effort to make employers think differently about disability. Such campaigns can serve a useful purpose in raising the general public's awareness of employment issues for people with disabilities. In contrast, our goal was to develop materials and an outreach strategy to educate and support employers that focused on depth of impact, rather than breadth.

METHOD

INTRODUCTION TO MENTAL MODELING

Mental Modeling (Young, 2008) has its genesis in the user-centered web design literature (Pruitt & Adlin, 2006; Beyer & Holtzblatt, 1997; Lai, Honda, & Yang, 2010). As the web has evolved, so has philosophy about how to best design sites to serve users (Cooper, 1999). As a result, web designers have increasingly utilized sophisticated research methods in order to better understand and reflect the needs and behaviors of users. These research methods include in-depth interviews and contextual inquiry, a methodology whereby researchers conduct naturalistic observations of target audience members (e.g., in their homes, places of work, etc.; Beyer & Holtzblatt, 1997). Web developers have also increasingly drawn from marketing principles; including audience segmentation, which is often called “persona development” in the web literature (Pruitt & Adlin, 2006).

Mental modeling is a methodology that employs selective sampling (see Schatzman & Strauss, 1973) based on hypothesized audience segments (demographic and behavioral), unstructured interviews, and a clearly delineated approach to line-by-line interview transcript analysis. The result is a detailed map (“Mental Model”) of user behaviors, feelings and philosophies, and revised data-based audience segments (Young, 2008). This approach emphasizes careful selection of research subjects and depth of interviews; as such the focus is on conducting a small number of detailed interviews, rather than a large number of more superficial ones. The goal is to achieve “saturation” of themes and concepts, rather than representativeness of the interviewees (see Richie & Lewis, 2003)

A significant benefit of the Mental Modeling approach is that it retains data at a highly granular level (that of individual behaviors), while also providing the contextual understanding

common among constructivist research methodologies. Data at each of these levels can then be used to inform not only web design, but strategic thinking about products, services and marketing approaches; as well as decision-making about particular features and language choices in written copy.

DEFINING THE RESEARCH QUESTION

As discussed above, the employment rate of individuals with disabilities is substantially lower than that of individuals without disabilities (Erickson et al., 2012), and there is evidence that this is attributable, at least in part, to disparate treatment of people with disabilities in hiring and in the workplace (Lengnick-Hall, Gaunt, & Kulkarni, 2008; Schur, Kruse, & Blanck, 2005).

In designing a social marketing campaign to influence employer and workplace behaviors to improve employment rates and workplace inclusion for individuals with disabilities, it was first necessary to define the scope of the project. In particular, we identified aspects of the employment process in which disparate treatment has the potential to occur, ranging from pre-employment and hiring (Leasher, Miller, & Gooden, 2009) to retention and promotion (Hernandez, B. & McDonald, 2008). Building on this literature, we developed a single question to guide our research process and interviews: *How do employers go about solving problems finding, recruiting, hiring, keeping, & promoting employees with disabilities?*

As with phenomenological methods, this question was developed with the intention of eliciting information on individuals' experiences, behaviors and emotions as they occurred in

context and to encourage employers to think about disability in the workplace in a way in which they had not previously reflected on the topic (Thompson et al., 1989).

MARKET SEGMENTATION

It is key that social (and commercial) marketing campaigns be developed based on a clear understanding of the needs and differences among members of the audience (Andreasen, 2006; Wedel & Kamakura, 2000). Across marketing, an understanding of the potential target audience members typically involves segmenting the market into meaningful subgroups based on physical (e.g., demographic, geographic, etc.) and/or behavioral (e.g., lifestyle, psychographic, etc.) characteristics (Cahill, 2006). This information is then used to plan campaigns targeting some or all of these segments.

Since the concept of market segmentation was introduced in 1956 (Smith), a multitude of methods have emerged for parsing market segments (see McDonald & Dunbar, 2004; Mitchell, 1994; Wedel & Kamakura, 2000 as examples). In recent years, there has been increasing interest in dividing market segments based on patterns of audience member behavior, rather than demographic characteristics. There are persistent challenges in developing behavioral audience segments, however, as behavioral data tend to be difficult to collect and categorize, while data on physical characteristics tend to be easily available through organizational records or through market research firms (Cahill, 2006; McDonald & Dunbar, 2004). In addition, the effort to collect data to identify behavioral audience segments is often difficult to justify to management, who must be convinced that the additional time and money will be worth the investment.

Mental Modeling involves the development of initial, hypothetical audience/market segments based on existing organizational data and the subsequent revision of these segments following interview transcript analysis. For the purposes of this project, we developed four hypothetical audience segments (Table 1) describing the range of employer attitudes and behaviors toward the recruitment and employment of people with disabilities observed through our own regular interactions with employers during training events and individual interactions.

Our hypothetical audience segments are roughly aligned with the Stages of Change model, which describes how individuals can be influenced to change high-involvement behaviors over time (Andreasen, 2006). The four segments were “Resistor,” “Compliance-Focused Implementer,” “Dedicated Implementer,” and “Positive Change-Maker,” aligning respectively with the Precontemplation, Contemplation, Preparation and Action, and Maintenance Stages of Change. In describing the segments, we developed a first-person narrative capturing what we hypothesized to be their outlook on the employment of people with disabilities (presented in Table 1).

There is evidence that social marketing campaigns are more effective when designed to target individuals in a particular stage (Prochaska & DiClemente, 1983). While social marketing campaigns may focus on any of the Stages of Change, often they are focused on the Contemplation stage (Andreasen, 2006). As discussed below, we opted to focus our research on the audience segments aligned with the Contemplation and Preparation and Action stages.

SAMPLING

A variety of sampling methods are employed in qualitative research, ranging from choosing subjects purposefully to simply using volunteers (see Morse, 1991). Mental Modeling employs a selective sampling method, in which subjects are chosen based on their potential to inform the goals of the research and their personal characteristics (Schatzman & Strauss, 1973). In particular, Mental Modeling combines the use of hypothetical audience segments and demographic characteristics to ensure selection of a varied set of research participants.

Given available resources, we were unable to study all four hypothesized audience segments, and so began by selecting the segments which we believed would be the best targets – the “Dedicated Implementer” (Preparation and Action) and the “Compliance-Focused Implementer” (Contemplation). We chose not to focus on “Positive Change-Makers” (Maintenance) because their behavior was hypothesized to already be largely in line with desired outcomes, and we chose not to study the “Resistors” (Precontemplation) because of the anticipated challenges in recruiting these individuals and subsequently in conducting candid interviews (Lengnick-Hall et al., 2008).

We then identified relevant demographic characteristics to employ to ensure variety among individuals our sample (see Table 2.). The goal of this stratification was not

TABLE 1
Hypothetical Audience Segments and the Stages of Change

Segment Name	Segment Description	Approximate Stage of Change*
“Positive Change-Maker”	I believe strongly that hiring and retaining employees with disabilities and making a concerted effort to serve customers with disabilities is important, and that this has a positive impact on my organization both internally (culture) and externally in terms of competitiveness. I believe that the benefits of hiring people with disabilities far outweigh the costs and that making accommodations is just a natural part of making a workplace inclusive of the needs of all employees. I am not just familiar with the laws related to the employment of people with disabilities, I also know a lot about best practices, and I am always looking to implement new programs or enhance existing programs to improve my company's responsiveness to employees with disabilities.	Maintenance: In this phase individuals are already engaged in the desired behavior and any additional marketing efforts should focus on supporting that continued behavior.
“Dedicated Implementer”	I am committed to meeting my organization's objectives and standards related to employees with disabilities, and I generally think that hiring people with disabilities is a good organizational choice, but I find some of the regulations and requirements to be excessively confusing and burdensome. I do everything I can to make sure that I am compliant with internal and external standards, but I admit that I spend little time beyond that to ensure that the actions we are taking are truly effective. I am familiar with the basics of disability employment laws and making simple accommodations, but I still often have questions about how to handle situations with employees with disabilities appropriately.	Preparation and Action: In this phase individuals have thought about engaging in the desired behavior and are ready to act, but may need an additional push to enact the behavior.
“Compliance-Focused Implementer”	I have little interest in employing/recruiting people with disabilities, but my organization is required by law/regulation/EO to do so. Most of my effort in this area focuses on meeting minimum compliance standards so that my organization does not get in trouble. I am familiar with the basics of disability employment law, though I often need assistance to understand exactly what my organization is required to do, especially when there are specific employee issues that need to be addressed.	Contemplation: In this phase individuals are thinking about engaging in the desired behavior and considering the costs and benefits of acting.
“Resistor”	I believe that people with disabilities cannot really contribute as employees at my workplace and that they would not fit into the workplace culture. I resent the disability laws and regulations and find them to be excessively burdensome. I only address issues of disability employment as a reaction to immediate crises (e.g., EEOC charges filed against me).	Precontemplation: In this phase individuals are not thinking about the desired behavior. This can be because they are unaware of it or have decided against engaging in it, etc.

*Adapted from Andreasen, 2006

“representativeness” as is often the case in quantitative research, but rather to ensure a wide range of perspectives and work toward “transferability” of the findings (see Patton, 1990). These characteristics were based on differences across organizations and individual roles with the potential to facilitate or inhibit the behaviors our campaign was intended to influence. For example, we planned to recruit a mix of individuals working for federal agencies, for private businesses holding contracts with the federal government (federal contractors), and for private businesses without federal contracts, in part because of the different laws and regulations governing each group. This ensured that we were able to get a sense of the role of upstream policies on employer perspectives on the employment of people with disabilities. We hypothesized that each of the characteristics in Table 2 were relevant to the issues under examination.

Young (2008) suggests interviewing five to six individuals per chosen audience segment (also aligning with the demographics selected); at this point “saturation” has typically been reached and additional interviews will only add incrementally to accrued knowledge. Again, because of resources we opted to interview a total of ten individuals, five from each of our chosen audience segments.

Recruitment of research participants was conducted through outreach to existing professional and personal contacts. All potential candidates were screened to ensure that they were members of the target audience segments and had a desired combination of characteristics.

TABLE 2
Demographic Characteristics of the Sample

Characteristics	Number of Interviewees	
	Target	Actual
Organizational Type		
Federal Agency/Unit	3	2
Federal Contractor	5	6
Private Organization	2	2
Individual Role		
Director/Organizational Leader	2	2
Human Resource Manager/Representative	5	6
Line/Staff Manager	3	2
Organizational Size		
Less than 50 employees	2	1
51 - 500 employees	1	2
501 - 2,499 employees	3	2
More than 2,500 employees	4	5
Level of experience with people with disabilities in the workplace (participant perception)		
A lot	3	4
Some	7	6
None	0	0
Level of organizational interest in disability employment		
High	5	6
Low or Don't Know	5	4
Audience Segment		
The Positive Change-Maker	0	0
Dedicated Implementer	5	5
Compliance-Focused Implementer	5	5
The Resistor	0	0

INTERVIEWS AND ANALYSIS

After a short screening call to confirm participant eligibility, an appointment was scheduled for a one-hour phone interview. Mental Modeling uses an unstructured approach to interviewing similar to that of phenomenology, which relies on a single opening question and then proceeds in a circular way in which the interviewer probes with the intention of bringing out rich descriptions of specific experiences (Thompson et al., 1989). In this study, the opening prompt was simply a derivation of our research question, namely: “How do you go about

solving problems finding, recruiting, hiring, keeping, and promoting employees with disabilities?”, and subsequent questions followed the direction of the study participant.

Each of the interviews was conducted by phone, recorded, and professionally transcribed. Analysis was done on these transcripts using a line-by-line method of coding developed by Young (2008), which involved extracting individual “behaviors, feelings and philosophies” from the transcripts, grouping these codes across interviews and then identifying relationships across groups of codes, similar to many qualitative research methodologies (e.g., Braun & Clarke, 2006). Ultimately, a model was developed to visually represent these individual behaviors and their relationships.

RESULTS

SAMPLE

After screening 19 employers, we identified 10 who met the screening criteria (Table 2). Selective sampling ensured that this sample was diverse along our pre-specified criteria. Ultimately we conducted interviews with Human Resource (HR) professionals (n=6), managers (n=2), and organizational directors/leaders (n=2). Participants represented federal contractors (n=5), the federal government (n=3) and private businesses without federal contracts (n=2), as well as small (< 500 employees, n=3), medium (501-2,499 employees, n=2) and large (> 2,500 employees, n= 5) organizations. Private organizations were from the following industries: Manufacturing, Accommodation and Food Services, Professional and Technical Services, Finance and Insurance, Educational Services, and Retail Trade.

THEMES

In coding and grouping the interview transcripts, we identified five major themes and 13 subthemes across the interviews (see Figure 1.). The major themes addressed workplace and management issues broadly, without specific reference to disability, while the subthemes focused on a mix of general and disability-specific issues.

FIGURE 1

Summary of themes

Theme 1: Improve Workplace Diversity

Theme 2: Recruit, Assess and Hire New Employees

Subthemes:

- Recruit for open positions
- Assess candidates
- Hire new employees

Theme 3: Manage Employees

Subthemes:

- Develop employees' skills and awareness
- Monitor employee performance
- Reward employees
- Address concerns about employee performance, misbehavior
- Accommodate an employee
- Plan for employee leave
- Terminate an employee

Theme 4: Address Workplace Health and Safety

Theme 5: Demonstrate Organizational Values

Each of these themes and subthemes is composed of and derived from the codes developed during analysis. As mentioned previously, one of the benefits of Mental Modeling is that it retains data at a highly granular level, in addition to identifying broader themes. All of these data are displayed in the “Mental Model” itself (see Figure 2. for an example section of

the much larger Mental Model). Within the model each small box represents a code, while each “tower” represents a group of related codes and each group of towers composes a subtheme.

The five major themes identified through analysis broadly cover both individual employment situations (“Recruit, Assess and Hire New Employees” and “Manage Employees”) as well as organizational culture and decision-making (“Improve Workplace Diversity,” “Address Workplace Health and Safety,” “Demonstrate Organizational Values”). Interviewee responses addressed the full spectrum of the employment process, from recruitment and retention to discipline and termination. Interviewees spoke most about issues of individual employment; likely this is a circumstance of many of their roles in HR or as managers in frequent contact with individual employees and job applicants.

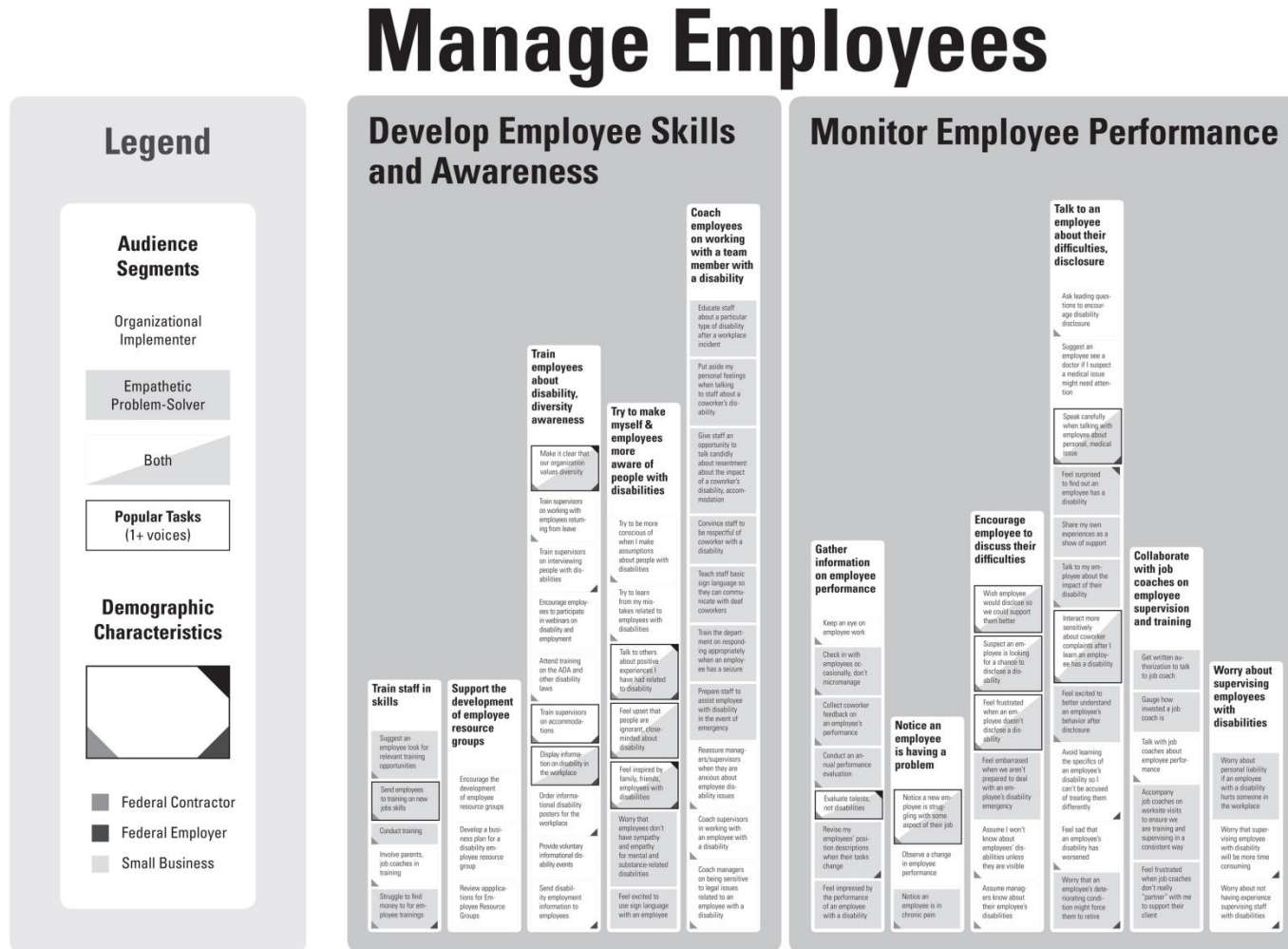
A range of up- and downstream issues were apparent across these themes. For example, interviewees made reference to concerns about legal compliance related to improving workplace diversity, recruitment and hiring of new employees and managing employees, and they also discussed their uncertainty about how to appropriately respond to employees and applicants with disabilities throughout the employment process.

AUDIENCE SEGMENTS

Following analysis of the transcripts, we revisited our hypothetical audience segments to assess how accurately they described the individuals we spoke to. It was immediately quite clear that the “Dedicated Implementer” and “Compliance-Focused Implementer” descriptions did not adequately describe the philosophical or behavioral characteristics and differences across interviewees. Instead of being differentiated based on attitudes to disability in the

FIGURE 2

Example section of the Mental Model displaying the major theme “Manage Employees” and two subthemes, with legend.



workplace, these individuals differed fundamentally in their beliefs about their role as an employer.

We thus developed revised audience segments based on this difference: the “Empathetic Problem-Solver” and the “Organizational Implementer” (see Table 3.). In particular, Empathetic Problem-Solvers were proactively focused on the interests of all of their employees as individuals, regardless of (dis)ability, while Organizational Implementers were more reactive to the requests of employees and more focused on maintaining compliance with organizational and governmental requirements. While the Organizational Implementer had characteristics in common with the hypothesized “Compliance-focused Implementer,” the revised description and naming more accurately captured the philosophy and behaviors of this group.

This shift in audience segmentation has significant implications for how we choose to approach social marketing. Empathetic Problem-Solvers would likely be best reached by social marketing that appeals to their existing desire to care for their employees by increasing their awareness of disability in the workplace. Organizational Implementers, on the other hand, would likely be more receptive to appeals that focus on disability relative to legal mandates and organizational objectives.

It is interesting to note that these audience segments were independent of demographic characteristics –each audience segment was composed of individuals in different positions (e.g., HR, management, etc.) and sectors (e.g., federal, federal contractor, etc.).

TABLE 1
Revised Audience Segments

Segment Name	Segment Description	Example Statement
Empathetic Problem-Solver	I consider taking care of the people who work for me a critical part of my job. I can sense when an employee seems to be struggling professionally or personally and I reach out to them to see if there is anything I can do to help support them. I often go beyond what is in the standard “management/HR” handbook because I’m really invested in my employees and I want to do everything I can to keep them healthy and happy at work.	“The motto that I have is health and family first... you know, it's sort of nice to be able to help folks that way. And at least, you're not directly helping them but you're making their lives a little easier by not putting stress on them.”
Organizational Implementer	I strive to contribute to my organization’s mission and I work hard to follow its policies and processes. I maintain a professional relationship with my employees and I trust that they will let me know if they need something.	“We need to make sure what we're doing is based on the law. The challenging part is when employees with disabilities don't come forward and say something - we can't necessarily treat them differently when we would like to make sure that we're making reasonable accommodations.”

DEMOGRAPHIC ANALYSIS

Finally, within the Mental Model it is possible to add information on the characteristics of respondents to better understand the characteristics of individuals engaging in each coded behavior. In this way it is possible to visualize patterns of responses across demographic or other groups. We included in our model visual indications of employer sector, size and audience segment (see Figure 2).

There are several demographic and audience segment patterns within the Mental Model that are of particular relevance to a social marketing approach. In particular, there are themes in the model about which only one audience or demographic segment spoke. For example, only federal employers and federal contractors who were also Organizational Implementers spoke about the major theme “Improve Workplace Diversity.” Both federal

employers and federal contractors are subject to upstream policies that emphasize meeting diversity objectives, including disability; but only Organizational Implementers within those sectors spoke about feeling pressure to improve workplace diversity.

Beyond a few trends like the above, however, the Mental Model suggests that employers across demographics and audience segments engage in many of the same general behaviors, but approach them differently. For example, while all of the individuals interviewed provide accommodations for their employees with disabilities, Organizational Implementers tend to wait for requests from employees, while Empathetic Problem-Solvers are more likely to communicate to an employee that they would be receptive to a request for accommodation. These differences, while seemingly subtle, make it clear that a social marketing campaign intended to change employer behavior must build on some employers' focus on maintaining legal and organizational compliance and on others' focus on caring for their employees as individuals.

DISCUSSION

The preceding research was undertaken to better understand the full range of activities in which employers encounter disability, identify specific areas in which employers were in need of education or information about this topic (both from their perspective and from ours), identify what motivated them to seek information when they did so, and ascertain whether and how they ultimately applied any information they obtained to their workplace. Mental Modeling allowed us to develop a detailed understanding of employer behaviors, feelings and philosophies around each of these issues.

ENCOUNTERING DISABILITY: We found that employers encountered disability frequently in the workplace, in a range of contexts that aligned broadly with the employment process (e.g., recruitment through termination). Despite the frequency of these contacts, employers often did not label these experiences as disability-related and expressed confusion about when and whether or not to use the word disability. For example, one interviewee stated, “I have discovered that one of my employees has Asperger's Syndrome, which, I guess probably it might be considered a disability.” Though Asperger’s syndrome is significant and pervasive, this individual still expressed uncertainty about whether it qualified as a disability.

Interviewees spoke about disability most directly at points in the employment process where disability-focused legislation was most salient. This included recruitment (for employers subject to hiring mandates), providing accommodations, and addressing issues of employee medical or other leave.

INFORMATIONAL NEEDS: Interviewees spoke frequently about needing to find information related to employment and disability. This was especially true around legal issues, where interviewees expressed uncertainty about what was and was not legal in particular situations. Interviewees also discussed feeling unsure how to address interpersonal or workplace culture issues related to an employee with a disability.

INFORMATION SEEKING: Interviewees spoke most about seeking information when it concerned legal issues or mandates, or pertained to a current issue or challenge in the workplace (e.g., employers looked for information on accommodating an employee with a disability when faced with the need to do so for a particular employee). While a few

interviewees spoke about attending training or other formal events to prepare in advance, it was more common that they sought information to address a particular situation in the moment in which it was needed.

When interviewees did seek information, they used a variety of channels, including searching online, asking colleagues for advice, consulting legal counsel, and searching the phone book.

USING INFORMATION: Interviewees who sought information to address a particular issue typically applied that information immediately to resolve the issue at hand. In very few instances interviewees did talk about using that information as a starting point for addressing issues of disability in the workplace more broadly, although they often used such information to respond to similar issues in the future.

Using the above findings and revised audience segments, we have begun to revise our social marketing and information/service delivery strategy to better align with the language and behaviors of employers. In particular, we have begun identifying areas of the Model which are and are not priorities for EARN and our funder, developing products and services to support employers in priority areas, revising our website architecture to align with the major themes identified, and identifying points within the employment process where we may capitalize on employers' existing information-seeking behaviors to insert our own resources and services. We have also begun to incorporate the concerns of both Organizational Implementers and Empathetic Problem-Solvers in the development of materials and services, to ensure that our resources speak to and address both perspectives.

CONCLUSION

We undertook Mental Modeling in order to help us better understand how to reach and support employers in hiring, retaining and advancing individuals with disabilities. While members of our team have worked with employers on these very issues for years, the Mental Model allowed us to document the contextual experiences of employers at a granular level and to identify behavioral audience segments to guide our marketing and outreach.

CHALLENGES AND FUTURE DIRECTIONS

Despite the utility of the Mental Modeling method, it is still subject to some of the challenges inherent in social marketing research (Bloom & Novelli, 1981). In particular, it was difficult at times to get interviewees to speak candidly about their perspectives on people with disabilities in the workplace, likely because of fear of sounding discriminatory or revealing socially unappealing behaviors. This was ameliorated in part by recruiting through existing personal and professional connections, rather than through more distant sources or through EARN's existing constituents; interviews in which the connection between interviewer and interviewee were most remote often had more interactions in which the interviewee appeared to be monitoring their responses for social appropriateness.

Future research will focus on interviewing individuals from the other two hypothesized audience segments and focusing on particular themes in the Mental Model for additional exploration. In particular, there is an enduring interest in better understanding the perspectives of the hypothesized audience segment the "Resistors" (Precontemplation). This group is likely to present additional research challenges as they may be even less likely to be candid than the groups studied here. Future work may also focus on validating the audience segments and

themes through survey research on a larger population; moving from the transferability of this small sample (Patton, 1990), to generalizability with a representative sample. Such work would also help gauge the relative pervasiveness of each of these audience segments in the employer population.

In addition, we have not, to date, fully explored the upstream implications of this Model. While it is clear that legislation and regulations played a key role in the choices of some interviewees, further exploration of the Model, and likely additional research, will be necessary to fully understand the interplay between upstream policy and the actions taken by employers related to employees and applicants with disabilities.

Ultimately, despite these limitations, the Mental Model has proven to be useful as both a guiding strategic document and as a tactical guide for reaching and serving our employer audience with an eye to both upstream policy and downstream individual factors.

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