The Untold Story: The Masked Experiences of Women with Autism Working in IT

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Hala Annabi
The Information School, University of Washington
hpannabi@uw.edu

Abstract

Women with autism working in the information technology industry (IT) face significant challenges due to being women and being with autism. We know very little in the way of research about the experiences of women with autism in the IT workplace. We propose a research study to investigate the challenges and opportunities women with autism experience in the IT workplace. We use Annabi and Lebovitz (2018) Organizational Interventions Mitigating Individual Barriers Framework (OIMIB) to depict the barriers women with autism experience, the individual methods they use to mitigate the barriers, and the role organizational interventions play in mitigating these barriers. We use in-depth interviews to empower women with autism to tell their stories and the unique challenges and opportunities they experience.

Keywords

Women with autism, gender in IT, IT workforce, autism

Introduction

Scholars from various fields recognize the proclivity of individuals with autism to pursue technology-oriented employment (Mazurek et al., 2012). For example, a recent national longitudinal study revealed that individuals with autism are more likely to pursue and persist in STEM fields in postsecondary education than non-STEM fields (Wei et al., 2013). In fact, 16% of college students with autism who pursue postsecondary education (PSE) choose computer science related fields, which is significantly higher than any other major chosen by students with autism (Wei, et al., 2013). According to the Bureau of Labor Statistics, the number of IT jobs will grow 12% between 2014 and 2024, faster than the average for all other occupations (BLS, 2015).

The IT industry is starting to take notice of the untapped technology talents and skills of individuals with autism to address the industry’s significant unmet need for employees. Technology giants SAP Software Solutions, Hewlett Packard Enterprise (HPE), and Microsoft, inspired by the initial success of the Danish IT consulting firm Specialisterne, deployed hiring and onboarding initiatives for IT workers (e.g., software developers and testers) with autism. These initiatives offer potential business benefits, including meeting the rising demand for IT workers, as well as capitalizing on the unique cognitive style and talents of employees with autism, namely, systems thinking, attention to detail, high level of focus, comfort with doing repetitive behavior, and the ability to visualize problems (Austin and Pisano, 2017; Morris et al., 2015; Annabi et al., 2017). Furthermore, industry champions of such programs point to the opportunity for such programs to have a greater social impact (Shattuck et al., 2012). Autism employment programs provide meaningful employment opportunities for the growing number of IT-oriented individuals with autism.

Despite their potential, early studies of autism employment in IT reveal that technology workers with autism experience challenges and isolation in the workplace (Annabi et al., 2017; Morris et al., 2015). These experiences often are attributed to: 1) limited understanding of the talents of IT workers with autism (Annabi et al., 2017; Austin & Pisano, 2017); 2) suboptimal environmental and task design accommodations (Rebholtz, 2012); and 3) the social and behavioral disconnect between workers with autism and their neurotypical managers and co-workers with whom they work directly (Austin & Pisano, 2017; Morris et al., 2015). In particular, early anecdotes suggest that women with autism experience challenges and isolation at an even higher rate due to autism-specific characteristics they may exhibit and barriers most women experience. The academic, clinical, and practitioner communities know little about women with autism and
their experiences in employment because the study of autism employment in IT is a new phenomenon and there is no established theory to draw from (Morris et al. 2015; Austin & Pisano, 2017). Furthermore, most autism employment studies focus on men. Autism is more common in males (1 in 42) than in women (1 in 189) according to the CDC (Christensen et al., 2012). There are no IT employment-specific or general employment studies that focus on women with autism, or even include sufficient numbers of women (Cook et al. 2017) to derive any valid insights regarding the unique experiences of women with autism in IT.

The goal of this study is to give voice to women with autism in IT by investigating the challenges and opportunities they experience in the workforce. The proposed study will address two research questions:

1. What are the opportunities and challenges women with autism face in the IT workplace?
2. What characteristics of the organization, as well as diversity and inclusion interventions, maximize opportunities for inclusion and reduce challenges for women with autism in IT?

Experiences of Women with Autism Working in IT

Women make up 26% of the IT workforce (Ashcraft, McLain, & Eger, 2016). Fifty-six percent of women in IT leave within the first five years—twice the turnover rate of men in IT and women in other fields (Ashcraft et al., 2016; Glass, Sassler, Levitte, & Michelmore, 2013). Research attributes this high turnover to structural barriers (e.g., occupational culture, institutional structures, and “masculine” promotion criteria) and social barriers (e.g., stereotyping, questions of legitimacy, isolation, and work life balance) (Ahuja, 2002; Simard et al., 2008). Women in IT are subject to stereotyping that leads to mistaken assumptions about a woman’s interests, capabilities, and skills, and push women toward typically “feminine” and less technical roles (Scott-Dixon, 2004; Foust-Cummings et al., 2008). Stereotyping also manifests in “access and legitimacy” perceptions causing women to be viewed as intrinsically less capable than men (Wilson, 2004) and their performance evaluated differently from their male peers. This results in their being passed over for promotions due to assumptions about being “family focused” and “unwilling to travel” (Hewlett et al., 2008; Simard et al., 2008). Research has widely recognized the “double burden” women face when balancing work and family (Blair-Loy, 2009). Lastly, the combination of being a minority and often having poor supervisory relationships leaves women in IT feeling socially isolated for three reasons: 1) lack of mentors, 2) limited role models, and 3) a limited professional network (Ahuja, 2002; Simard et al., 2008).

No data is available on the number of women with autism working in IT or the unique challenges they face. The literature on autism employment, which includes mostly male participants, echoes the barriers above, though they may be for slightly different reasons and may take different forms. Studies suggest that individuals with autism face barriers to successful employment due to individual (e.g., education, characteristics, and needs), organizational (e.g., organizational culture and rewards structure), and environmental (e.g., socio-cultural norms and expectations) factors (McDougal et al., 2010; Maroto & Pettinicchio, 2015). Perhaps the most significant barrier relates to access and legitimacy due to marked social communication impairments and restricted interests that affect their interpersonal interactions and ability to relate to people. Often, individuals with autism are deemed unqualified or undesirable for jobs that they are intellectually capable of doing well (Austin & Pisano, 2017). Employee retention and advancement is also low among individuals with autism as many of the skills involved in retention are considered “soft skills” (e.g., interpersonal interactions, time management, etc.), which are challenging for individuals with autism (Seaman & Cannella-Malone, 2016). There is also a long history of viewing disabilities from a deficit model that affects how organizations perceive the suitability and potential productivity of individuals with disabilities, including autism, in the workplace (Maroto & Pettinicchio, 2015). Individuals with autism may experience their colleagues stereotyping their abilities and interests and assigning them to repetitive tasks, thereby limiting their advancement (Annabi et al., 2017).

Individuals with autism often feel isolated from and have few informal meaningful interactions and relationships with their colleagues (Morris et al. 2015; Austin & Pisano, 2017). Employees with autism report being “scorned” by co-workers and that their social impairments often lead to isolation and alienation in the workplace (Müller et al., 2003). This is due, in part, to a significant disconnect in interpersonal communication between employees with and without autism (Scott et al., 2015). In their review of autism employment in IT, Austin and Pisano (2017) supervisory relationships are important and may pose further challenges and isolation if managers are not trained or ready to include those with autism. Furthermore, individuals with autism often have sensory sensitivity that challenge them to perform their
best if the environment and nature of work is overstimulating. The nature of IT workplaces and requirements for travel, constant change, and open floorplan can pose significant challenges for employees with autism, therefore requiring specific accommodations that are counter to standard policies in many firms (Austin & Pisano, 2017; Morris et al., 2015). The dynamic, ambiguous, fast-paced, and often critical events (e.g., new releases, malfunctions) characteristics of an IT work may present challenges to individuals with autism (Morris et al., 2015). These characteristics, if not properly managed, can increase stress and anxiety for individuals with autism and prevent them from completing their work effectively and efficiently (Austin & Pisano, 2017).

Theoretical Framework

To further explore the challenges facing women with autism and address our research questions, we draw on Annabi and Lebovitz (2018) Organizational Interventions Mitigating Individual Barriers Framework (OIMIB). OIMIB provides a framework that includes individual-level constructs and relates them to intervention- and organizational-level constructs, providing a holistic multilevel theoretical critical lens to explore the complexity of challenges and opportunities that women with autism experience in IT. The framework allows us to not only explore the individual components, but also the interplay between them. OIMIB is grounded in Individual Differences Theory of Gender in IT (IDTGIT) which enables us to investigate intersectionality and reveal the nuanced differences and similarities in experiences and responses of women (Quesenberry & Trauth, 2012). OIMIB includes the following four components to demarcate individual-, intervention-, and organizational-level constructs that influence women’s experiences in IT.

Individual Experiences in IT is an individual-level construct grounded in IDTGIT that includes three sub-constructs: 1) individual identity (personal demographics and career items); 2) individual influences (personal characteristics and influences); and 3) environmental influences (cultural, economic, policy, and infrastructure influences) (Truath et al., 2009; Quesenberry & Trauth, 2012). These constructs are consistent with socio-cultural constructs identified by autism researchers (e.g., Roux et al., 2015; Wei et al., 2013; Shattuck et al., 2012) that influence educational and employment outcomes within the autism community. The interplay between these constructs explains why and how women with autism experience barriers in the IT workplace.

Barriers and Opportunities in the IT Workplace is an organizational-level construct. Societal and organizational structures create barriers for women with autism in the IT workplace, described in the previous section. Consistent with IDTGIT; we argue that barriers/challenges are experienced on an individual level. Based on individual interest, and needs, some may be affected by certain challenges (e.g., physical structure, or masculine culture) while others will not. Our framework posits that IT women with autism perceive workplace structures and relations differently and therefore may experience none, some, or all the barriers identified.

Individual Coping Methods is an individual-level construct focusing on how women in IT exercise agency and deploy individual coping methods to respond to barriers. These range from developing informal networks, seeking informal mentors, and ignoring barriers, to more severe responses, such as changing personal characteristics or leaving IT. We know very little about the coping methods women with autism use to mitigate barriers (Cook et al., 2017). We suspect that not all the methods previously identified will be relevant to women with autism (e.g., creating informal networks). The autism literature identifies other coping methods such as “masking,” a way individuals with autism mask their autism symptoms by mimicking social behaviors observed and masking their own social behaviors and tendencies (Dworzynski et al., 2012; Baldwin and Costley, 2016). Our study will explore coping methods women with autism deploy.

Diversity and Inclusion Intervention Characteristics is an intervention-level construct which includes the characteristics of autism employment-related interventions preventing, mitigating, and eliminating the barriers employees with autism experience in IT. Intervention characteristics influence the extent to which barriers and opportunities exist and the level at which they negatively or positively impact women with autism. We organized characteristics into four categories: intervention catalysts and objectives; methods and practices deployed; measurement processes; and neurotypical employee’s knowledge and attitudes.
Method

In order to develop a theoretically grounded understanding of the experiences of women with autism in IT, we propose an exploratory study of women with autism in IT using ethnographic interview techniques. Semi-structured interviews will be conducted in person. Participants are being recruited through women with autism affinity groups in IT firms and using a snowball sampling recruitment strategy. Interviews will be transcribed and data will be analyzed utilizing Miles and Huberman’s (1994) interactive model of content analysis. This will follow an interactive process between data collection, data reduction (deductive and inductive coding), data display, and drawing and verifying conclusions. To ensure the reliability and validity of the content analysis, we will conduct inter-coder reliability tests using the content analytic framework on a sample of the data until coders reach acceptable inter-coder agreement per Baker-Brown et al. (1990).

Causal mapping will also be used to determine women’s perceptions of organizational and diversity and inclusion intervention characteristics associated with challenges and opportunities. Causal maps are visual network representations of concepts and the relationships between them. This method provides a way to elicit women with autism’s perceptions regarding the influence (causality) that organization and interventions characteristics have on the challenges and opportunities they experience. We will use Riemenschneider et al. (2006) six-step method to determine and analyze causal maps from interview data.

Conclusion

We know little about women with autism working in IT. Our proposed study aims to improve our understanding of the unique experiences of these women in order to equitably include them in the IT workplace. Women with autism bring many talents to the IT industry and have long been marginalized as a population. It is both a social and business imperative that we improve our understanding of their experiences in order to equitably include them in the workplace and learn from their unique talents.

REFERENCES


