

**Thesis Project Portfolio**

**Expanding VIABLE Employment for Adults with Autism: A Systems Approach to**

**Increase Nonprofit Sales**

(Technical Report)

**Barriers to Assistive Technology Access in the Virginia Medicaid Program**

(STS Research Paper)

An Undergraduate Thesis

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## **Sociotechnical Synthesis**

It is estimated that, as of 2019, there were 7.39 million individuals with intellectual and developmental disabilities (IDDs) in the US (Residential Information Systems Project, 2019). According to the National Institutes of Health, IDDs are conditions “that are usually present at birth and that uniquely affect the trajectory of the individual’s physical, intellectual, and/or emotional development” (National Institutes of Health, 2021). As a result, individuals with IDDs face a unique set of difficulties in everyday life compared to the general population. Through my sociotechnical research and technical capstone project, I addressed two of the biggest such challenges facing these individuals: unemployment and lack of access to assistive technology (AT).

My technical project focused on the issue of unemployment among individuals with IDDs in Virginia through a partnership with VIAble Ventures, a microbusiness run by the VIA Centers for Neurodevelopment. VIAble Ventures sells spa products like candles and bath salts, all of which are made by artisans with autism. The program provides on-site job training and a source of income for adults with intellectual and developmental disorders. The goal of this work was centered on increasing VIAble Venture sales to expand employment opportunities for autistic adults in the local Charlottesville area. Prior to the project, sales depended heavily on availability and seasonality, not online shopping. Our team used a systems thinking approach to increase online sales on VIAble Venture’s website by (1) analyzing trends in past transactions, and (2) redesigning the website. Using data analytics, we projected top selling scents seasonally and identified high margin products that VIAble Ventures could prioritize to increase profits. Additionally, our team conducted focus testing on the navigation of their original website to identify pain points, notably the salience of navigational tools and clarity of the company

mission. These findings guided the final redesign of the new Square website. By increasing production during currently lower sale months and streamlining the online user experience, VIABLE Ventures could increase sales and thus increase the number of adults with autism employed.

My sociotechnical research project aimed to examine the issue of AT access for individuals with IDD in the US, using the Virginia Medicaid IDD waiver process as a case study. While many studies have aimed to identify barriers to AT access on a national scale, little had previously been done to better understand the issue at the state level in Virginia. To inform my research, I used a combination of interviews with various stakeholders in the program and historical analysis of several laws, regulations, and official publications pertaining to the provision of AT at the state and federal levels. In the paper itself, I argued that invisible administrative work and conflicting narratives in the professional evaluation and service authorization processes, stemming largely from institutional and medical biases embedded in the federal Medicaid program, serve as the primary factors limiting access to AT funding through the DD Waiver program in Virginia. First, I demonstrated how institutional and medical biases embedded in the federal Medicaid system's IDD services from the program's inception created barriers to accessing AT services across the country. Then, I examined how federal efforts to address these barriers failed to facilitate AT adoption through the Virginia DD Waiver system. Finally, I showed how unrecognized administrative work and conflicting narratives in the Virginia DD Waiver program restrict public funding for AT today.

Access to assistive technology and securing stable employment are just two of the many hurdles faced by individuals with IDDs in the US. Examining these two issues simultaneously through my technical project with VIABLE Ventures and my STS research into the Virginia

Medicaid system helped me gain a more complete understanding of how they fit into the larger issue of community integration for individuals with IDD. Learning about the institutional and medical biases embedded in the US Medicaid program through my STS research provided valuable insights into the origins of the historic underemployment my technical work aimed to address, as such biases extend well beyond the public healthcare system. Additionally, interacting with the artisans at VIABLE Ventures and hearing firsthand the impact that the work has on their lives provided a more personal perspective on the value of community integration that I did not encounter in my STS research. Overall, these two projects enabled me to more clearly see the importance of replacing the conventional medical model of disability with a social model, one that places the burden of responsibility on society rather than the individual to address the disadvantages imposed on the IDD community.

## References

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