

The University of Chicago

**The New, Accessible Mainstreet: An Exploration of E-Commerce**

**Disability Entrepreneurship**

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## **Abstract**

In recent years, disability entrepreneurship has become a topic of increasing academic interest, particularly for its potential to facilitate greater inclusion and independence of disabled individuals. However, no research has explicitly focused on disability entrepreneurship in the context of the rapidly proliferating e-commerce business model. In this paper, I explore the unique benefits and challenges of e-commerce business for disabled entrepreneurs through analysis of ten semi-structured interviews with physically disabled e-commerce entrepreneurs. I find that the e-commerce business model can make entrepreneurship more attainable for disabled individuals by mitigating accessibility challenges, financial barriers, and educational barriers which commonly affect traditional disability entrepreneurship. However, disabled entrepreneurs often have difficulty scaling their e-commerce businesses, and a lack of accessibility in the internet and computer technology may still hinder participation. Given these findings, I recommend that the government expand access to capital and educational resources for disabled entrepreneurs and subsidize assistive technology.

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# **The New, Accessible Mainstreet: An Exploration of E-Commerce**

## **Disability Entrepreneurship**

### **Introduction**

Officially passed in 1990, the Americans with Disabilities Act (ADA) prohibited discrimination against disabled Americans and promised them greater opportunities to participate in mainstream society (“Introduction to the ADA”, n.d.). Over 30 years since the passage of this landmark act, disabled Americans are still excluded from society, with challenges in finding and maintaining employment, often due to discrimination, being one such case (Boellstorff, 2014; Friedman 2019). However, disabled individuals may achieve economic inclusion through alternative routes to traditional employment, such as entrepreneurship. In fact, disabled individuals across the world display a propensity for independent ventures, as in many countries disabled workers select self-employment over traditional employment at a higher rate than the general working population (Gouskova, 2020; Jones & Latreille, 2011; Pagán et al, 2009;). In light of these trends, disability entrepreneurship has been established as an area of academic interest and has been studied by researchers at a deeper level. Demographically, disabled entrepreneurs have been found to be typically male, older, more educated, and more likely to have a physical disability (Blanck et al., 2000, Gouskova, 2012; Hwang & Roulstone, 2015). In terms of common business characteristics, disabled entrepreneurs have been found to often operate businesses that are small with few or no employees, in the service sector, and based in the home (Blanck et al., 2000; Hwang & Roulstone, 2015; Jones & Latreille, 2011; Maritz & LaFerriere, 2016). Disabled entrepreneurs have also been found to face serious barriers to business entry and success, which include accessibility challenges (Casado & Casaú, 2019;

Csillag, 2019; Hsieh et al., 2019), financial constraints (Boylan & Burchardt, 2003; Hwang & Roulstone, 2015; Renko et al., 2016), and lack of business education and training (Hwang & Roulstone, 2015; Parker Harris et al., 2014). However, the field of disability entrepreneurship has not yet properly considered how different types of businesses may have unique implications for disability entrepreneurship. E-commerce business, defined in this study as a business with revenue generating transactions primarily occurring over the internet (Laudon & Traver, 2021), is a particularly ripe type of business for study.

The internet has been recognized as a revolutionary force in entrepreneurship since its early days and has certainly lived up to expectations. In 2001, the US House Committee on Small Business held a hearing on the rise of the internet and its implications for small businesses, labelling the internet “the new American Main Street” (“Promoting Internet Entrepreneurship”, 2001). In recent years, as internet technologies have further matured, e-commerce businesses have exploded in number, now making up a considerable portion of the US economy. In a study commissioned by the Internet Advertising Bureau, the internet economy in the United States was shown to contribute \$2.45 trillion of economic output in 2020 for 12% of the total U.S. GDP, a rapid increase from its 2.7% GDP contribution in 2008. (Deighton & Kornfield, 2021). Beyond being increasingly relevant in the American economy, internet businesses differ from traditional businesses in a variety of important ways, including in the nature of the entrepreneur and in the primary drivers of entrepreneurial success (Dheeriyaa, 2009; Nambisan, 2017). Taken together, the rapid growth of e-commerce business and its unique properties prompts a detailed analysis of the prospects of e-commerce businesses for disabled entrepreneurs. While some research has suggested that the internet in general can offer advantages for disabled entrepreneurs

(Boellstorff, 2014; Hsieh et al., 2019; Lin et al., 2019), the e-commerce business model itself has yet to be explored as a distinct type of opportunity for disabled entrepreneurs.

In this study, I addressed these gaps in the field of disability entrepreneurship through original qualitative research, drawing on ten semi-structured interviews with disabled e-commerce entrepreneurs. To respect the heterogeneity of disability, my research was primarily focused on individuals with physical disabilities. In my study, e-commerce business was contrasted against “traditional” business—also referred to as “physical” or “brick and mortar” business—which represents an enterprise based in a physical location. Ultimately, in this research I sought to address how the experiences of disabled e-commerce entrepreneurs differ from those of disabled entrepreneurs with traditional businesses, and to outline the distinct advantages and disadvantages e-commerce businesses offer for disabled entrepreneurs.

I found that e-commerce businesses have several characteristics which make them more accessible to physically disabled entrepreneurs. First, e-commerce business allows for a physically remote and asynchronous style of work, which enables disabled entrepreneurs to mitigate accessibility barriers. Second, e-commerce business is often operated with low-cost or free internet services, which makes starting and running a business more feasible for often-financially constrained disabled entrepreneurs. Lastly, e-commerce business entails more available opportunities for education and training, which helps compensate disabled entrepreneurs who often lack formal training. At the same time, e-commerce business may pose challenges for disabled entrepreneurs, which includes difficulties scaling the business and earning a sustainable income as well as additional accessibility barriers from insufficient computer technology. In light of these findings, I recommend that the US government expand both financial resources and training resources to help disabled entrepreneurs scale their



businesses and to subsidize the production of assistive technology for more accessible computer and internet use.

The broad scope of my research question is not a function of naïve ambition, but rather intentional design. The intersection of e-commerce business and disability entrepreneurship has yet to be explored in any meaningful way. Therefore, I sought to address the topic through a helicopter-view approach, establishing a broad framework around the matter and offering several preliminary hypotheses. Instead of making a more specific, well-backed contribution to the field of disability entrepreneurship, I aimed to launch the long process of discovery that is warranted for the topic. I hope my contributions inspire and motivate researchers to explore disabled e-commerce entrepreneurship further and open a window into a mode of work that may have immense inclusionary implications for disabled Americans.

## Literature Review

### **History of Disability Rights**

In the early 20<sup>th</sup> century, American society framed disability as a matter of personal medical relevance, with disabled individuals being viewed as “sick” or “diseased”, which accordingly shaped the policy approach towards disability for most of the century (Shapiro, 1993). In this approach, referred to by some later disability advocates as a “medical model of disability”, disability is treated as a diagnostic category in which the effects of the disability are assumed to be causally related to its origin, the underlying impairment. Through this lens, disability should be addressed by the individual making one-sided adaptations to the environment around them (Hahn, 1985). As a result of the pervasiveness of this view, the US government sought to address disability by changing disabled individuals’ circumstances,

including providing financial support or seeking to medically repair or rehabilitate their disability (Scotch, 2000).

However, this conventional logic of disability was challenged in the mid-late 20<sup>th</sup> century and the Disability Rights Movement emerged to fight for greater rights of disabled Americans. Perceptions of disability began to slowly shift in the 1960s, concurrent with the Civil Rights Movement in the US. Years later, Section 504 of the 1973 Rehabilitation Act was passed, banning discrimination on the basis of disability in programs receiving federal funds. With the passage of this law, the US government made a foundational pivot to first recognizing disability not under the medical model as a personal limitation, but as a consequence of external societal barriers and biases (Mayerson, 1992). This was not to be an easy victory, though. After the regulations of Section 504 failed to be issued for years, disability rights advocates countered with fierce protesting, including a nearly month-long sit-in, in order to see the eventual implementation of the law. These powerful demonstrations represented an awakening of the Disability Rights Movement, gearing it for fierce battles in decades to come (Shapiro, 1993).

The new interpretation of disability in the US was reflected by emerging theory of the Social Model of disability in the U.K. that would come to have great relevance in disability studies and politics in future decades. Parallel to the awakening of the US Disability Rights Movement, the Union of Physically Impaired Against Segregation (UPIAS), a British network of disability advocates, famously argued that it is truly “society which disables impaired people” and that disability is “something imposed on top of our impairments, by the way we are unnecessarily isolated and excluded from full participation in society” (“Fundamental Principles of Disability”, 1975). The growing popularization of this sentiment led to Michael Oliver’s formalization of his “social model” of disability in 1983 (Shakespeare, 2006). Directly

responding to the medical model of disability, the social model distinguishes disability from impairment and asserts that disability is a social creation, meaning that it is not individual limitations which form disability but the failure of the social organization to adequately consider the needs of disabled people (Oliver, 1990; Shakespeare, 2006). The social model is argued by some academics to be unrealistic, as they believe there may be limitations of having an impairment that society cannot correct for. As a result, new models which consider both individual-level and societally imposed limitations of disability have emerged (Shakespeare 2006; Zajadacz, 2015). Still, the social model is acknowledged to have meaningful positive effects on the development of disability rights (Levitt, 2017) and continues to be widely discussed and deployed in disability studies today.

Propelled by the ethos of the social model, the burgeoning Disability Rights Movement continued its fight in the US in the 1980s, campaigning against adverse Supreme Court Rulings and the Reagan administration's attempts to slash regulations. As a result of fierce campaigning and lobbying on behalf of the Disability Rights Movement, the American approach to disability was fundamentally altered with the 1990 passage of the landmark Americans with Disabilities Act (ADA) (Mayerson, 1992). Broadly, the ADA sought to ensure the equal treatment of disabled people under the law, which included the prohibition of discrimination in employment, government services, transportation, and public accommodations ("History of the Disability Rights Movement", n.d.). The ADA was about more than preventing discrimination, though. West (1991) explained that the ADA was about a deeper reorientation of American society's views towards disabled people. The ADA "intended to open the doors of society and keep them open" (West, 1991).

Despite the promises of the ADA, the doors of society remain inaccessible for many disabled individuals. Inclusion in the workplace is one particular area of concern, as those with disabilities remain employed at much lower rates than the general population, which is partially attributable to continued discrimination. The disparity in workforce engagement was evident in 2020 with an employment ratio of 17.9% for disabled individuals vs 61.8% for non-disabled individuals (U.S. Bureau of Labor Statistics, 2021). While this disparity can be partially explained by a fear of losing disability benefits from working (Boellstorff, 2019; Olney & Lyle, 2011) and genuine functional limitations (Fyffe et al., 2021), disabled individuals certainly continue to be hindered by employment discrimination as well (Blanck et al., 2000; Cooney, 2008; Friedman, 2020).

As traditional employment has failed to provide sufficient opportunities for those with disabilities, disability entrepreneurship has emerged as a subject of rising intellectual interest, especially in the last several years (Mota et al., 2019). Some research has briefly touched on the potential of the internet technology as to mitigate challenges faced by disabled entrepreneurs (Blanck et al., 2000; Casado & Casau, 2019; Mota et al., 2019). However, the internet has thus far only been addressed as a potential tool for business owners, not as a medium for business creation that enables fundamentally different types of businesses. A gap exists in the current literature on the unique implications of e-commerce businesses for disabled entrepreneurs. This gap prompts a further exploration into the unique distinctions of e-commerce businesses for disabled entrepreneurs and how these opportunities can further open the doors of society.

### **Theory on Entrepreneurship and the Entrepreneur**

Before I visit existing literature on disability entrepreneurship, a brief examination of general entrepreneurship literature is warranted. Much research on entrepreneurship has evolved

from the work of Joseph Schumpeter, who posited that entrepreneurs spawn innovation through their efforts to exploit opportunities for profit. This source of innovation serves as an instrumental driver of broader economic and societal growth (Schumpeter, 1934). Frameworks like that of Gartner's (1985) built on early entrepreneurship theory by taxonomizing ventures. By illustrating the distinctions between ventures, these frameworks provided a deeper and more nuanced understanding of entrepreneurship. Gartner's seminal model traced the venture's character to four primary categories of determining variables: individual (the entrepreneur or entrepreneurs behind the business formation), environment, organization, and process (Gartner, 1985).

My study of disabled entrepreneurs focuses on the particular category of the individual in entrepreneurship. For individual-level factors, Gartner (1985) stated that the background of the entrepreneur has great bearing on the ultimate prospects of their business. In other research, an entrepreneur's status as a member of a marginalized group is said to be a particularly influential element of the entrepreneur's background, one that typically makes it more difficult to succeed in business. For one, racial minority entrepreneurs often face discriminatory barriers to obtaining educational and business-related resources which help build necessary business acumen. Racial minority entrepreneurs, particularly black entrepreneurs, have also been shown to lack financial resources and access to capital necessary to build successful businesses (Bates et al., 2007). Female entrepreneurs also may face challenges in accessing capital due to gender bias (Alsos & Ljunggren, 2016; Balachandra et al., 2019). Of course, marginalized entrepreneurs should not be studied as a single subject, as each particular group has unique characteristics which impact their entrepreneurship differently. Disabled entrepreneurs are one distinct marginalized group of entrepreneurs that warrants study.

## **Existing Research on Disability Entrepreneurship**

### *Disabled Individuals' Propensity for Venture Creation*

Disabled individuals have repeatedly demonstrated a higher propensity for venture creation over traditional employment compared to the non-disabled populations, which makes this specific group of marginalized entrepreneurs particularly interesting to study. In the US, an early study focused on Iowa's Entrepreneurs with Disabilities program found that self-employment was an important alternative for disabled people alienated by traditional employment options (Blanck et al., 2000). Gouskova (2012) later analyzed the 1988-2009 Current Population Survey (CPS) and found that workers with work limitations, which represented disability, were self-employed at a higher rate than the general population, where self-employment was defined as being self-employed in an unincorporated business. Considering a variety of controls, the differentials between self-employment of those with work limitations and those without work limitations was 2.7% and 2.0% for men and women respectively. Though the study's definitions for disability and self-employment were not perfect, the results presented evidence that disability is positively associated with individuals' decisions to opt for self-employment. This persistence of this association was shown in a later study of 2000-2015 CPS data, with a 3.1% self-employment differential for men and a 2.4% differential for women (Gouskova, 2020). While a rigorous academic analysis of recent US data has not been undertaken, 2021 Bureau of Labor Statistics data showed a self-employment differential of 4.9% for men and 3.1% for women with no controls (U.S. Bureau of Labor Statistics, 2021).

Studies from several different countries have shown that disabled individuals' propensity for self-employment is not unique to the US. In particular, much data has been collected to support this trend in the UK. Boylan and Burchardt (2003) found that the disability self-

employment differential was approximately 4% for men and 2% for women, displaying a significant positive relationship between disability and self-employment. In a different study, a higher rate of self-employment among disabled people was confirmed in UK data, but it was added that most of this differential is due to work-limiting disabilities, not disabilities that are non-work limiting (Jones & Latreille, 2011). In a seminal article, Pagán (2009) established that disabled individuals had a higher propensity for self-employment as compared to the general population in various countries in the European Union with the difference being particularly pronounced in Greece, Portugal, and Austria. Higher self-employment among disabled individuals has also been demonstrated in studies in Australia (Maritz & LaFerriere, 2016), in Indonesia (Halimatussadiyah et al., 2015), and in South Korea (Yu, 2008).

#### *Characteristics of Disabled Entrepreneurs*

Entrepreneurship rates among disabled people vary based on demographic factors such as gender, age, type of disability, and race. Men with disabilities are found to have a greater propensity for self-employment than women with disabilities (Blanck et al., 2000, Boylan & Burchardt, 2003; Gouskova, 2012; Gouskova, 2020; Hwang & Roulstone, 2015). Self-employment among disabled persons also increases in age and education levels (Gouskova, 2012; Jones & Latreille, 2011). In general, those with physical disabilities start businesses with greater frequency than those with mental disabilities (Blanck et al., 2000; Cooney, 2008; Hwang & Roulstone, 2015; Shaheen, 2016), though underreporting of mental disabilities may have skewed these findings (Shaheen, 2016). Gouskova (2020) found that in the US black disabled people have the lowest effects on their self-employment rate from disability out of all racial groups; black disabled men only had a 2.2% greater chance of pursuing self-employment versus non-disabled black peers, while these figures were 3.6% for white disabled individuals and 4.9%

for individuals of other races (Gouskova, 2020). Still, research on the racial characteristics of disabled entrepreneurs is generally limited and more work should be done to understand how the intersection of race and disability affects entrepreneurship. Additionally, researchers have not yet studied how immigration status impacts entrepreneurship, which presents another important topic for exploration.

Research has also identified common ways in which disabled entrepreneurs run their businesses with many of these trends suggesting the utility of an e-commerce business model for disabled entrepreneurs. Particularly, disabled entrepreneurs most typically establish businesses in the service sector (Blanck et al., 2000; Hwang & Roulstone, 2015). Disabled entrepreneurs also typically focus on small businesses with few to no employees (Hwang & Roulstone, 2015; Jones & Latreille, 2011), though the reasons for this tendency are uncertain and could be due to personal preference or financial constraints. Disabled entrepreneurs also commonly run their businesses from home (Cooney, 2008; Hwang & Roulstone, 2015, Maritz & LaFerriere, 2016). These tendencies of disabled entrepreneurs—particularly decisions to run smaller businesses and to work from home—further motivate my focus on e-commerce businesses, as e-commerce businesses often share these qualities.

### *Barriers to Entrepreneurship*

Despite evidence that self-employment is preferred by disabled individuals at a higher rate compared to the general population, disabled individuals still encounter considerable barriers to starting and operating businesses. One major barrier faced by disabled entrepreneurs is a lack of accessibility in various facets of society. In particular, disabled entrepreneurs are hindered in their entrepreneurial pursuits by a lack of accessibility in buildings, transportation, and information and training crucial to business success (Casado & Casau, 2019; Csillag, 2019;



Viriri & Makurumidze, 2014). In confronting these barriers, some disabled entrepreneurs face burdensome monetary costs, including for hiring formal assistance (Csillag, 2019) and for installing adaptations in their place of work (Lloret, 2019). Combined, these challenges may disadvantage disabled entrepreneurs—especially those with a physical business—compared to a non-disabled entrepreneur who is not burdened by an inaccessible society. Disabled entrepreneurs' prospects in traditional business may be especially hindered in sectors that require physical effort to manage, such as construction (Lloret, 2019). Though application of internet technology may help mitigate these challenges, these technologies themselves often lack accessibility for those with certain disabilities (Casado & Casau, 2019).

Another prominent barrier for disabled entrepreneurs is that they often face financial constraints that impede their ability to start and operate a business. From the start of the firm, prospective disabled entrepreneurs often have difficulty in securing start-up capital (Boylan & Burchardt, 2003; Hwang & Roulstone, 2015; Martínez-León et al., 2019; Renko et al., 2016). In their UK-based study, Boylan and Burchardt (2003) found that disabled entrepreneurs may have difficulty accessing start-up capital due to a lack of assets or a poor credit rating, or due to discrimination from lending institutions. When governments do aim to assist disabled entrepreneurs through providing loans and grants, these resources may be underutilized due to lack of information about their existence (Hwang & Roulstone, 2015). As a result of these barriers to financing, disabled entrepreneurs often must start their businesses with very little seed capital, with many entirely self-funding their business (Hwang & Roulstone, 2015). However, disabled entrepreneurs may also struggle to self-fund their business as they have been found to have less available savings to invest in their business compared to non-disabled entrepreneurs, primarily due to disparities in income (Martínez-León et al., 2019; Renko et al., 2016).

Additionally, disabled individuals often face challenges in starting a business due to the “benefits trap”, which is defined by the OECD as a fear of losing benefits income when other income is earned (Halabisky, 2014). This is a particular challenge in US where disability cash benefits are only extended by the Social Security Administration if individuals are not earning “substantial gainful activity”, which for 2022 is defined as \$1,350 per month and \$2,260 per month for those with blindness (“Substantial Gainful Activity”, n.d.). In the US, disabled individuals may also lose government-sponsored health insurance if they generate income (“Medicare Coverage for People with Disabilities”, n.d; Shaheen, 2016)

Lastly, disabled entrepreneurs may also face barriers in starting or running their businesses due to a lack of business education and training. Though it has been found that disabled entrepreneurs on average have less general schooling than non-disabled counterparts, lower levels of general schooling haven’t been shown to necessarily harm business success; in fact, some evidence has shown that disabled entrepreneurs without post-high school education actually reach an operational business status at a higher rate than disabled entrepreneurs with post-high school education (Renko et al., 2016). However, business-specific education and training is central to the development of entrepreneurial skills and behavior for those with disabilities (Anderson & Galloway, 2012; Csillag, 2019; Dakung et al., 2017; Mota et al., 2019; Muñoz Castellanos et al., 2019). Despite the importance of business-specific education, disabled individuals often lack sufficient government support through education and training programs (Hwang & Roulstone, 2015; Parker Harris et al., 2014). In a study of the US government-funded Start-UP NY, a project encouraging disabled entrepreneurs and the development of inclusive entrepreneurship education, Shaheen (2016) found that employees at existing disability service agencies and small business development agencies lacked confidence in the ability of disabled

individuals to run businesses, which they tie to low success of self-employment cases through vocational rehabilitation agencies. Existing education options for aspiring disabled entrepreneurs also may not be sufficiently accessible, preventing full participation (Boylan & Burchardt, 2003; Casado & Casau, 2019).

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To summarize the above points, disabled individuals have been consistently shown to pursue self-employment as a work option at a higher rate than the general population. Disability entrepreneurship is pursued more by males and also increases in age and education levels. Disabled entrepreneurs typically run small businesses with few and often no employees, and they also frequently operate their businesses from home. Despite an established propensity for undertaking entrepreneurship, disabled individuals still face meaningful barriers to entrepreneurial success including a lack of accessibility, financial constraints, and a lack of access to business training resources. However, the established findings generally don't differentiate between experiences in different types of businesses, warranting an examination of the implications of different business models.

### **The Intersection of E-Commerce Entrepreneurship and Disability**

In recent decades, the electronic commerce (e-commerce) business model has rapidly proliferated as internet technology has continued to develop. E-commerce is defined as “digitally enabled commercial transactions between and among organizations and individuals” (Laudon & Traver, 2021). An important distinction is made between e-commerce, which involves digitally-enabled transactions with external parties to generate revenue, and e-business, which is broader and also includes internal digitally-enabled business processes that don't directly generate

revenue, such as managing vendor relationships over the internet (Combe, 2006; Laudon & Traver, 2021; Meier & Stormer, 2009).

By the logic of Gartner (1985), e-commerce business has unique organizational elements—by merit of being conducted through the internet—which should impact the character of the business and the entrepreneurial outcome. Recent research has supported that e-commerce businesses have structural differences from traditional businesses which create unique operating environments and outcomes (Dheeriyaa, 2009; Nambisan, 2017). Commonly discussed benefits of the e-commerce business model include an increased geographic reach (Damanpour, 2001; Turban et al., 2015) and lower costs and greater efficiency (Amit & Zott, 2001; Turban et al., 2015).

Compared to other businesses, e-commerce business is also recognized as having low barriers to entry (Aldrich, 2014; Hull et al., 2007), particularly as they eliminate costs associated with operating a physical store (Turban et al., 2015). The low barriers to entry of e-commerce business suggest immense potential for marginalized groups, and a substantial literature has been established on the implications for women. In some cultures, digital entrepreneurship is argued to hold emancipatory potential for women as it may allow for escape from restrictive social practices and may allow women greater opportunities at accumulating social capital and knowledge (McAdam et al., 2020; Melissa et al., 2015). However, other researchers have argued that internet entrepreneurship and internet technologies in general have limited ability to generate opportunities for women due to disparities in access and usage and continued bias on the internet (Martinez-Dy et al., 2017; Novo-Corti et al., 2014; Robinson et al., 2015).

Despite ongoing research on the potential of e-commerce business for marginalized groups, e-commerce businesses have yet to be explored as an opportunity for those with

disabilities. Some findings from the broader disability entrepreneurship field suggest that e-commerce businesses may have great potential for those with disabilities. Particularly, as referenced earlier, many disabled entrepreneurs run their businesses from their home (Cooney, 2008; Hwang & Roulstone, 2015, Maritz & LaFerriere, 2016), pointing to a preference for e-commerce businesses that can be ran from anywhere, not just in a physical location.

Additionally, some of the most common barriers to starting a business for those with disabilities may be lessened in e-commerce businesses. For one, financial constraints may be lessened as e-commerce businesses require less upfront capital (Turban et al., 2015) and can be funded through channels outside of traditional asset-based lenders, particularly internet crowdfunding platforms (Aldrich, 2014). Also, disabled entrepreneurs modulate the income they receive from their e-commerce business with greater ease, helping them avoid the benefits trap, as e-commerce businesses allow greater information density for merchants, making information collection and processing more accurate and timelier (Laudon & Traver, 2021). Further, Yu and colleagues (2019) discussed how peer-to-peer information flows enabled by the internet may lessen informational gaps, helping training-constrained disabled entrepreneurs gain the knowledge they need to succeed. However, significant barriers likely still exist in e-commerce businesses, as the internet is not equally accessible for those with disabilities (Blanck et al., 2000; Maritz & LaFerrier, 2016).

This research study fills a gap in the growing body of literature on disability entrepreneurship by providing a targeted view on the experiences of physically disabled entrepreneurs with e-commerce businesses. I generated insight through qualitative analysis, particularly through gauging the experiences of disabled e-commerce entrepreneurs in hour-long, semi-structured interviews. My findings contribute to existing literature by explicitly addressing

the advantages of the e-commerce business model, particularly how it mitigates some of the barriers traditionally faced by disabled entrepreneurs. Additionally, I identify some particular challenges of the e-commerce business model for disabled entrepreneurs and make policy suggestions that account for the realities of the increasingly relevant e-commerce business model.

## Methods

### **Data Collection**

In this investigation, I conducted 10 semi-structured interviews data with disabled owners of e-commerce businesses. Semi-structured interviews are well-fit for research questions where pre-existing knowledge of the broader topic is possessed, but the specific question is unexplored (Morse, 2012), which thereby made this mode of data collection particularly useful for my study. Additionally, since there is little research touching on the intersection of disability entrepreneurship and e-commerce business, my approach sought to mainly uncover broad themes which can be later tested and expanded upon instead of testing a pre-conceived hypothesis.

Interviewees were sourced through a combination of convenience sampling and snowball sampling. First, convenience sampling was used to find initial contacts, as I identified potential interviewees through a general search of posts on Facebook, Twitter, Instagram, and LinkedIn in which individuals identify themselves as disabled entrepreneurs. I then coordinated with my initial interviewees to utilize snowball sampling, contacting other disabled entrepreneurs that were in original participants' networks. This sampling method was utilized because my targeted research population is hard-to-reach, meaning that construction of an initial probability sample would be difficult to the point of impracticality. However, this sampling method poses a limitation in that my sample cannot be considered representative of the broader population in

question (Handcock & Gile, 2011). An important limitation of my sampling method is that by finding interviewees through social media posts, my sample may have been biased towards successful disabled entrepreneurs and may not have properly weighed disabled entrepreneurs whose businesses failed and thus would not have a social media presence. Future research should seek to address this limitation by constructing a more representative sample of the disabled e-commerce entrepreneur population.

I tailored my target interview participants so that my research would address my research question in a direct and valid way. Outside of identifying as a disabled entrepreneur, two primary criteria were used to vet potential interviewees. First, identification of a physical disability was a criterion for selection, barring one participant who had ADHD. This decision was made in order to provide a more specific examination of disabled e-commerce entrepreneurs and so as to respect the heterogeneity of disability. Second, in order to satisfy that interviews were conducted with e-commerce entrepreneurs, I verified that their sales were primarily generated online.

My sample of disabled entrepreneurs contained several meaningful characteristics which prompt explanation. For one, the first participant I spoke with—Participant #1—operated a business that focused on providing resources for disabled entrepreneurs. Since his business and experiences varied from other participants in this way, I designed a unique set of questions for him. Another important characteristic of my study sample was that nine out of ten participants were women. This is particularly interesting in light of earlier research findings that disabled men are more likely than disabled women to start their own venture (Blanck et al., 2000, Boylan & Burchardt, 2003; Gouskova, 2012; Gouskova, 2020; Hwang & Roulstone, 2015). However, it is unknown if this characteristic of my sample is reflective of the broader population of disabled e-commerce entrepreneurs or is merely an artifact of my methodology. In terms of national

origin, nine out of ten participants were based in the U.S.—only Participant #9 was not, being based out of the U.K. Lastly, most of my participants operated businesses which were designed to serve disabled individuals or had disability-related products (e.g. shirts with a disability-related graphic design). This is significant in light of earlier research on social entrepreneurship by disabled individuals (Parker-Harris et al., 2014), and suggests that the intersection of e-commerce and social entrepreneurship could be an interesting route for future research.

<b>Participant Number</b>	<b>Disability</b>	<b>Business Type</b>
Participant #1	X*	Resources for Disabled entrepreneurs
Participant #2	Muscular Dystrophy	E-commerce clothing store
Participant #3	X*	App for people with chronic illnesses
Participant #4	ADHD	Social app
Participant #5	Paraplegia	E-commerce clothing store
Participant #6	Cerebral Palsy	Themed e-commerce store
Participant #7	Mobility challenges from spinal cord injury	Assistive device company
Participant #8	Cerebral Palsy	Influencer and E-commerce clothing store
Participant #9	Chronic Fatigue Syndrome (CFS)	E-commerce clothing store and freelance design
Participant #10	Spina Bifida	E-commerce beauty store

Participant Table  
*\*Omitted for confidentiality purposes*

The total time commitment for participants was intentionally made low so as to encourage participation. Outside of providing information on the informed consent process, which included basic details about my study and interview contents, I did not provide any supplemental information to prepare participants for interviews. Most interviews were conducted over a Zoom video call, though two participants opted for a phone-based interview. Interviews were conducted for approximately an hour in length or until interview topics had been sufficiently explored. Interviews were recorded and later transcribed for data analysis.



My interview format was designed to flow naturally and generally follow a standardized path while still allowing flexibility for probing individuals' unique circumstances. In total, I asked 24 standard interview questions (Appendix A). These interview questions were structured into three buckets following a chronological order. In order, these buckets were: questions regarding personal and business background, questions regarding the establishment of the business, and questions regarding day-to-day business operations. The organization of these buckets was foremost designed to facilitate a natural conversation, and as such my categories of analysis are different. In the spirit of a semi-structured interview, I asked all participants the same root questions in the same order. In order to uncover unique insights, my questions were broad and open-ended, allowing interviewees a large degree of discretion to share their experiences. Follow-up questions were asked when appropriate to uncover additional details on relevant topics.

### **Data Analysis**

I conducted qualitative analysis of my interview data, particularly through a content analysis approach. A qualitative approach was utilized partly due to difficulties in collecting a large enough sample of participants for a quantitative analysis. Additionally, a qualitative approach was used because the aim of my research is to surface themes and questions on a previously unexplored topic, not to make empirical claims about phenomena.

After data collection was completed, I individually analyzed each interview and tagged relevant content with qualitative codes, which allowed for aggregate analysis to be conducted. In this process, I associated each segment of content with two categories of code: a segment of code indicating the general findings bucket the content fell under and a segment of sub-code indicating the more specific topic of the finding. After completing this initial coding process, I

aggregated all coded content in a separate file with content separated into the general buckets they are coded by. Then, I organized content by the sub-code describing their topic and refined sub-codes to form complete topics of analysis. It is important to note that in my analysis, I often omitted Participant #1 when calculating sample statistics about business characteristics. This was done because Participant #1 had a unique business compared to other participants, as he focused on providing business resources, and thus was asked a unique set of questions in his interview.

## Findings

In the following section, I present my findings from interviews with ten disabled individuals who formerly ran or currently run an e-commerce business. My research findings serve as a continuation of an effort to promote greater inclusion of disabled citizens in mainstream American society. Specifically, this research adds to discussions on disability entrepreneurship, as it addresses how the experiences of disabled e-commerce entrepreneurs vary from those of disabled entrepreneurs with traditional business and traces the emergent advantages and disadvantages of the e-commerce business model for disabled entrepreneurs. To achieve these particular aims, my study design gauged the experiences of physically disabled e-commerce entrepreneurs and interpreted these experiences in light of existing literature on disability entrepreneurship.

Broadly, the e-commerce business model was found to mitigate barriers that physically disabled entrepreneurs commonly face in traditional business, thereby enabling these businesses to provide more accessible opportunities for the workplace inclusion of disabled Americans. In the following section, I examine how exactly the e-commerce business model can mitigate entrepreneurial barriers for disabled individuals. In particular, I address how the e-commerce business model can diminish the three barriers of disability entrepreneurship identified in the

literature review: lack of accessibility, financial constraints, and educational and training constraints. I concluded by addressing an array of common challenges that disabled e-commerce entrepreneurs face.

### **Advantage #1: Mitigating Accessibility Barriers through Remote Work**

One way in which e-commerce entrepreneurship provides unique advantages is that it mitigates accessibility challenges in traditional business by providing flexibility in the time and place of work. In general, lack of accessibility—particularly in buildings and transportation—has been shown to meaningfully hinder disabled entrepreneurs' prospects of achieving success (Casado & Casauá, 2019; Csillag, 2019). Moreover, in my interviews, physically disabled e-commerce entrepreneurs frequently expressed how their disability can present mobility issues and often discussed experiencing unpredictable bouts of exhaustion. The nature of an e-commerce business allows for the entrepreneur to manage these elements of their disability more successfully than in a traditional, brick and mortar business. Particularly, disabled e-commerce entrepreneurs primarily conduct their work remotely, allowing them to lessen the physical movement needed to operate and travel to their business. Interestingly, the nature of remote work also allows for the entrepreneur to overcome traditional expectations of when work should be done, which form another pressing, though less obvious, accessibility challenge. Specifically, e-commerce business permits a flexible, asynchronous work style which allows disabled entrepreneurs to move beyond strict schedules and easily adjust their work around the challenges of their disability.

#### *The Benefits of Place*

Many study participants, especially those selling goods, stated that the alternative of running their business in-person would entail much more physical hardship while working,

which can be especially challenging due to their disabilities. Participant #6, who runs an online store, explained that running a store in-person would make her much more tired, especially as she would have to be standing and speaking to customers all day. E-commerce stores circumvent these challenges by allowing for business owners to work in comfortable positions. This strength of e-commerce business was supported by several interviewees, who noted how they could overcome some physical challenges of running a business by working from their bed.

Internet technology also unlocks different, lower-touch forms of business that require less physical exertion for disabled entrepreneurs, such as the drop shipping model. The drop shipping model allows store owners to sell goods to customers without ever physically holding them. Instead of producing a good and selling it, drop shipping entrepreneurs will design products and control the sale with customers, but will completely outsource production and fulfillment, simply ordering items from suppliers who will package and ship the items to customers on behalf of the drop shipping business. Participant #6 explained her preference for drop shipping, stating: “Especially because I have a disability, I don't want to ship out boxes. I've actually shipped out literal orders... and I hated it. I just want to drop ship. I don't want to pack and ship anything.” For physically disabled entrepreneurs like Participant #6, internet-enabled business models enable a new type of work less physically intensive than traditional business models, opening more accessible routes to entrepreneurship.

The advantages of remote businesses extend beyond lessening physically intensive work. Remote businesses also lessen the need for physically demanding travel which can extract tolls on those with disabilities. In discussing the difficulties of going to a physical location for work, Participant #1 offered evidence for how remote work can benefit physically disabled entrepreneurs. He explained “Being disabled is having another job. Going to PT, exercising

every day. It is another layer you have to manage. It takes additional effort to get to work. The physical demand on one's body is much harder." Clearly, remote work allows for disabled entrepreneurs to forego daily travel to work, making one less additional challenge that disabled individuals have to deal with. Participant #8 also discussed the physical demands of travelling to in-person engagements. She noted the challenges of catching a cold bus for a two-hour round trip to a previous job, explaining that it "kills your body". Participant #10 added that finding transportation to physical locations is often an issue for her, which makes an e-commerce business especially attractive. Evidently, traveling to work can be incredibly burdensome for those with disabilities and the remote nature of e-commerce businesses can do much to lessen this burden.

### *The Benefits of Time*

Outside of the benefits of location that e-commerce entrepreneurship affords, remote business allows for work to be conducted with flexibility in time that helps mitigate some important, though often less considered, challenges of running a business with a disability. In fact, I identified both a short-term benefit of day-to-day work and a long-term time benefit of e-commerce businesses. With regards to working on a day-to-day basis, many physically disabled entrepreneurs discussed how they face challenges with unpredictable episodes of exhaustion which impact their daily business operations. Particularly, Participant #2, Participant #3, and Participant #8 discussed how their disability has unpredictable impacts on their energy level, and some days they will face fatigue that makes it difficult to conduct their business. Participant #2 specifically highlighted the uncertainty this can create, sharing "These days, when I wake up I don't know what the body's gonna feel like, if I'm going to feel too tired to get out of the bed...So having a store, you don't want to neglect that." Though accessibility challenges are

often perceived as being tangible in nature—including obstructed doorways and missing ramps—this evidence shows how disabled individuals also face challenges of their disability which impose less visible accessibility barriers on their entrepreneurial pursuits.

However, disabled entrepreneurs appear better equipped to deal with these accessibility challenges in e-commerce business versus physical business. Compared to physical business, e-commerce business work is asynchronous, meaning that business operations don't have to coincide chronologically with customer actions and workers can complete jobs at different times. Thus, disabled e-commerce entrepreneurs are able to adapt to these challenges of their disability, as the asynchronous nature of their business allows them to easily flex work to accommodate for episodes of fatigue. Participant #3 explained these benefits of remote business in detail:

I always wondered how I would be able to lead [in a physical location], being that I get tired in the middle of the day and if I have my own office I can't just sleep in the middle of my office. Like if we're working with a team of people and I get tired, I can't take a quick nap to reenergize myself. Being remote, I have the leeway to work out my schedule and schedule meetings in times that work for me. I can take naps if I need or if I need to eat something because I don't feel well or something of that nature, then I have that leeway. (Participant #3)

For Participant #3, remote business allowed her to address the effects of her disability however she needs to, while she anticipated that such behavior would not be tolerated in a brick and mortar business. Participant #2, Participant #6, and Participant #9 also described how their e-commerce businesses enable them to work intermittently throughout the day, adjusting their schedule to their convenience. By granting disabled entrepreneurs the ability to easily adjust their

work schedule, remote businesses provide a degree of flexibility that goes a long way to making entrepreneurship more accessible.

Outside of this day-to-day advantage of the e-commerce business model, it also provides a benefit over a longer time horizon. Specifically, the nature of e-commerce business allows for disabled entrepreneurs to quickly adjust business plans if their health conditions deteriorate.

Participant #9 highlighted this point, sharing her thoughts on the possibility moving her business to an in-person format:

Maybe for something that was on a short timeframe, I would be willing to do that. But I don't have any plans to make it a sort of long-term thing where there's going to be lots of in-person stuff because it's just not sustainable for me. And I think that's because my health fluctuates a lot, so it's hard for me to plan anything. It feels weird to be an entrepreneur without a business plan, but I feel like I can't plan anything because I don't know what my health is going to be like so...I just sort of go with what I know works, and I keep doing it. (Participant #9)

For Participant #9, brick and mortar business was difficult to undertake because it involves a long-term commitment that she could not make given the uncertainty of her future health. This calculation represents another invisible accessibility challenge to entrepreneurship faced by some disabled individuals. However, e-commerce business allowed Participant #9 to overcome this challenge and pursue entrepreneurship without making any long-term commitments. Of course, not all disabled people face uncertainty about their future health; but for those who do, the long-term flexibility of e-commerce business makes entrepreneurship a more accessible option.

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In summary, e-commerce business can help physically disabled entrepreneurs overcome common accessibility challenges to entrepreneurship. Specifically, e-commerce business allows for remote work which allows for disabled entrepreneurs to overcome mobility challenges related to the physical challenges of working in person and travelling to work. Additionally, e-commerce business offers flexibility that allows disabled entrepreneurs to mitigate challenges they face in meeting a strict schedule typical of traditional business and in planning the future of their business, which may be difficult to do due to health concerns. However, this section only addressed how e-commerce business can mitigate challenges primarily related to physical disability. Participant #4, who had ADHD, discussed unique ways in which e-commerce business may be more or less accessible. In particular, she shared that the work inherent in e-commerce business has less structure, which allows for her to open up her creative side, but also stated that staring at a computer screen all day presents challenges for her. However, evidence from a single participant is not enough to draw any conclusions on the accessibility implications of e-commerce business for entrepreneurs with non-physical disabilities, and further research should be undertaken on the accessibility of e-commerce business for entrepreneurs with different types of disabilities.

### **Advantage #2: Mitigating Financial Constraints through Low-Cost Operations**

For disabled entrepreneurs, financial constraints are one of the biggest barriers for successful entrepreneurship. Disabled entrepreneurs generally have fewer financial resources when they start their businesses compared to non-disabled entrepreneurs (Martínez-León et al., 2014, Renko et al., 2016). Moreover, disabled entrepreneurs also often face difficulties in securing startup capital (Boylan & Burchardt, 2003; Hwang & Roulstone, 2015; Renko et al., 2016). My research confirms that disabled entrepreneurs face challenges to raising capital



through traditional means. However, I also find that e-commerce entrepreneurs are able to run their businesses at a low cost compared to brick and mortar entrepreneurs, lessening the impact of financial constraints that disabled entrepreneurs often face. Particular affordable elements of e-commerce business include low-cost options for building a business through services like Shopify and Etsy, low-cost organic marketing through social media, low-cost hiring through freelancer platforms like Upwork and Fiverr, and the low-cost nature of digital content. Additionally, many participants, particularly those with online stores, are able to work supplementary jobs to support their growing enterprise as a result of the low fixed costs and flexible nature of their business.

#### *The State of Funding for E-Commerce Entrepreneurs*

For some e-commerce entrepreneurs, a physical business is their ultimate goal, but they are unable to currently open a store due to the cost. Participant #2 is one such entrepreneur—she explained “I would love to open my own store. Of course, it's still so expensive. So, I still think I have some time before I can”. Participant #10 added to this sentiment, noting that she never would have been able to afford the cost of establishing a brick and mortar business. While all brick and mortar entrepreneurs face high costs of buying or renting a physical storefront, disabled entrepreneurs may face even greater costs. Participant #2 provided evidence for this, stating “If I do open a store, I'm going to need to have a network of supportive family and friends to help as employees that can run the store, because people don't understand living with a disability, especially muscular dystrophy.” Therefore, due to their disability, disabled entrepreneurs may need to seek out extra help when running an in-person store, creating a large, additional expense. Non-disabled entrepreneurs, on the other hand, might have less difficulties in travelling to work and could run the store by themselves, avoiding additional costs of employees.

Reflecting conclusions in broader disability entrepreneurship literature, I found that disabled e-commerce entrepreneurs have faced challenges in accessing capital through traditional routes, further raising barriers to starting a business. In several instances, discrimination was highlighted as a reason for these difficulties of obtaining capital. Participant #3 described how she had been told by industry experts and other entrepreneurs that she should avoid disclosing her disability in meetings with investors, because if they knew about her disability they wouldn't invest in her business. She said that the rationale given to her for this instruction was that many investors believe disabled founders pose a risk as they may get sick and depart the company, leaving an absence in leadership. Similarly, Participant #4 shared that she doesn't disclose her disability to potential investors, though she attributed this decision to her own expectation of discrimination, not the recommendations of others. Particularly, she stated "I don't share it a lot with people who might want to invest...I fear that they'll not want to invest because they'll think 'Oh my God, there is no organization happening.' But it's just a different way of working." Clearly, disabled entrepreneurs recognize discriminatory attitudes towards disabled entrepreneurs in the investing space, which can have severe implications for those founders who openly embrace their disability or cannot hide their disability.

Additionally, for the many disabled entrepreneurs whose businesses are built to serve the disabled community in some fashion, a predominance of non-disabled investors presents additional challenges. Participant #3 described how when she was speaking to investors about her app, which is designed primarily for people who have chronic illnesses, she faced great difficulty raising money. She explained that "a lot of people have never been sick; they don't understand the value of what I'm creating." Though businesses built to serve disabled community may have the potential to be successful, largely non-disabled investors may have difficulties

identifying the utility of these businesses, and their often-disabled owners may resultingly face a dearth of needed capital.

Outside of the challenges with accessing equity capital, disabled entrepreneurs also face challenges in acquiring other types of funding such as grants and loans. Participant #10 highlights this challenge in depth, as she explained that “money has been one of the biggest barriers I face as a disabled entrepreneur.” In general, she believed that there is a lack of resources available for disabled people in general and especially disabled entrepreneurs. When discussing her navigation of grant and loan programs for disabled entrepreneurs in the U.S., she explained that though applications were relatively straightforward, the programs were competitive and she never succeeded in securing funding. Moreover, she also noted that she only had access to private programs of this type and was not aware of any public ones. Clearly, Participant #10’s situation shows that loan and grant programs for disabled entrepreneurs in the U.S. are quite limited, making them an unreliable funding route for disabled entrepreneurs. While one of the study participants did succeed in receiving grant funding, the challenges presented by Participant #10 make clear the difficulty of obtaining funding through this route.

Evidently, disabled entrepreneurs often face difficulties in establishing brick and mortar businesses and also often have difficulty raising capital. However, I found that many disabled e-commerce entrepreneurs are able to circumvent these barriers as they can often successfully establish an e-commerce business through self-funding, or “bootstrapping”. In fact, bootstrapping was used by seven out of nine (77.8%) of the e-commerce business owners I spoke with (excluding Participant #1). When excluding app businesses, 100% of participants entirely self-funded their business. Participant #9 explained why e-commerce businesses may be so fit for bootstrapping, noting that for her store “the costs are fairly low. I don’t have that many expenses

because...it's just a case of maintaining software and that sort of thing.” Clearly, e-commerce businesses, particularly e-commerce stores, facilitate more accessible entrepreneurship for disabled individuals, as they can be easily self-funded, particularly due to their reliance on low-cost software subscriptions.

However, it should be noted that my research may overstate the accessibility that comes from an e-commerce business. By exclusively interviewing business owners, my research highlighted cases of entrepreneurs who had the resources to afford to be able to bootstrap. Even though I will show that e-commerce business expenses are relatively low compared to traditional expenses, bootstrapping still comes at a cost that may not be easily afforded by some disabled individuals, especially those that rely exclusively on government benefits and have limited personal monetary resources.

#### *The Enablement of Bootstrapping through Low-Cost Apps and Services*

Low e-commerce business expenses and their impact on barriers to entry demands further discussion. In my discussions with disabled e-commerce entrepreneurs, e-commerce businesses were broadly characterized as low-cost due to a wide range of free and low-cost apps and services that perform key business functions for e-commerce businesses. Participant #8 highlighted the ease and cheapness of running an online business, repeating her typical advice to other entrepreneurs:

I mean, a lot of these apps you can find for free... I think it's funny when people are like “I just want to like pick your brain. How do you do this stuff?” ...but I'm gonna tell you really basic things. I'm going to tell you Google it. I'm going to tell you if you need a software that's comparative to Adobe Photoshop... but you don't have the money or the resources, use Canva. There's different equivalents of software. (Participant #8)

Software options for e-commerce business owners are thus vast and available in a wide range of costs. These low-cost tools allow business owners to prop up a rudimentary business with little expenditure, enabling entrepreneurial opportunities that may not exist in a world of solely brick and mortar business.

In my research, I asked participants detailed questions about particular software they used and how they executed certain business functions. In the rest of this section, I highlight a few key characteristics of e-commerce businesses which engendered significant cost-savings for disabled entrepreneurs. In particular, disabled e-commerce entrepreneurs benefit most from low-cost services to build and host businesses and free organic marketing through social media. Additionally, online freelancer platforms allow disabled entrepreneurs to flexibly hire help at lower rates than local talent, and online content creators benefit from the recyclable nature of digital content, allowing them to maintain low cost of goods sold.

For brick and mortar entrepreneurs, establishing a store presence alone can cost thousands of dollars in rent a month. For e-commerce entrepreneurs, establishing a store costs a small fraction of that expenditure when online stores are formed through popular e-commerce platforms like Shopify and Etsy, which each have their own distinct advantages and disadvantages. Shopify, the most frequently utilized e-commerce platform among participants, has three basic plans for entrepreneurs: a \$29 per month plan, a \$79 per month plan, and a \$299 per month plan. For many disabled e-commerce entrepreneurs, the cost of running their online store through Shopify is negligible. For example, Participant #2's \$79 a month Shopify plan contributed less than 16% of her total estimated annual business costs. Even more affordable, sellers can establish an online store for no fixed costs through other options, such as Etsy, which run a marketplace model. According to the Etsy website, sellers only pay a \$0.50 listing fee and

a 5% transaction fee along with some smaller fees. Etsy sellers can also opt for additional seller tools for a \$10 per month Etsy Plus plan. Participant #2 mentioned that despite not actively selling on Etsy for quite some time, she still hasn't bothered to cancel her Etsy Plus subscription, demonstrating that fixed business establishment costs can be a very negligible burden for disabled e-commerce entrepreneurs. However, it should be of course noted that though Etsy poses no fixed costs on its merchants, there are drawbacks. Participant #10 shared how Etsy sellers directly compete for attention with other sellers on their platform and have little control to try and make their business stand out due to its marketplace structure. E-commerce platforms like Shopify, on the other hand, merely give entrepreneurs tools to start and run their business online, which grants the entrepreneur a greater degree of ownership, control, and customization.

Outside of hosting their businesses for a low cost, disabled e-commerce entrepreneurs are able to engage in marketing—another key business function—for free through organic social media methods. Participants indicated two primary ways in which they could market their business: paid advertisements, especially through Facebook, and organic social media marketing, or social media posting and correspondence that serves as free marketing. Some participants explained that to buy ads on social media, entrepreneurs must pay money upfront in order to guarantee placement of their ad. In comparison, organic marketing often doesn't require upfront investments, which is preferred by many disabled entrepreneurs. Participant #6 explained that “there's no cost to you reaching out to people on Instagram, telling them about the store. If they don't buy, they don't buy—you haven't wasted any money.” Participant #6 preferred this mode of marketing to paid ads, as she explained that many people sink thousands of dollars into buying ads before they even actually make any money. Participant #2 exhibited how free marketing opportunities through social media can be well utilized. Specifically, Participant #2 was a

member of several business “Groups” on Facebook. She explained that “whenever I see something [a post] ...where they’re like ‘promote your business!’, first thing I do is promote my business, let them know my mission.” She also frequently posted on Instagram, TikTok, and Twitter and made use of hashtags to engage new audiences. Though these actions did take time and effort, they imposed zero monetary cost. For disabled entrepreneurs like Participant #2, social media presents a wide range of ways to drive awareness of a business brand without spending considerable resources.

It may be argued that similar free methods of marketing are available in the physical world for brick and mortar businesses, but these likely do not match the effectiveness of social media. Particularly, social media allows entrepreneurs to reach the entire world, not just a local area, which can be especially important for disabled entrepreneurs who are selling a product for a dispersed disabled community. Participant #5 highlights this, noting that “You can’t just market anywhere for people in wheelchairs to see it.”

Additionally, organic online marketing is not a strategy exclusive to e-commerce business; many brick and mortar businesses have also adopted these methods to promote their business. However, while physical business can use social media for promotion, some evidence from my research shows that medium has more potential for business that is based on the internet. Participant #7 described how on Facebook and Instagram, potential customers can simply click on a link in a post and be taken directly to checkout. This allows for social media marketing for e-commerce businesses to quickly convert interested customers to sales while in physical businesses this kind of conversion is not possible. Additionally, as Nambisan (2017) discussed, internet businesses have more fluid boundaries than traditional businesses. Based on this logic, disabled entrepreneurs like Participant #8 and Participant #2, who undertook heavy

content creation and brand building on social media, may find that social media is more a foundational element of their business than it is a tool. In all, social media is an important element of many e-commerce businesses which allows disabled entrepreneurs to promote their enterprise at a low-cost and thereby overcome financial constraints to operating their business.

Internet freelancer platforms were another low-cost component of e-commerce business that disabled entrepreneurs utilized. In general, none of the entrepreneurs I interviewed said they had actual employees, but five out of nine (55.6%) contracted work. Of those who contracted work, most did so through large freelancing platforms like Upwork or Fiverr. According to some participants, these platforms simplify the process of contracting workers, which is more flexible and often less costly than taking on actual employees. Participant #4 shared how these platforms allow access to workers at lower hourly rates, noting “I’ve always worked with people from around the world, mainly because that’s who I can afford. I tried hiring people locally and they were just way out of my budget.” By establishing vast, trusted networks of international contractors, platforms like Upwork and Fiverr bring great benefits to those with disabilities, making contract work much more accessible and affordable. These freelancing platforms allow for financially constrained disabled entrepreneurs to afford help that they may have never been able to afford otherwise, granting more opportunities in entrepreneurship.

Lastly, digital content is an element of e-commerce business that may make entrepreneurship more affordable. Though only one of my study participants, Participant #8, used digital content to generate revenue, her experience suggested that the reusable, low-cost nature of digital content could create substantial opportunities for disabled entrepreneurs facing financial constraints. Participant #8 used the example of our interview to illustrate the nature of digital content:



If you're really dedicated to the cause, you can create content in a myriad of ways. Like you and I, we could take this interview, I could cut it up into like, 16 segments, do 30 second reels. For every second that we're interviewing, I can put this audio on a podcast, I could create little content blocks...I can throw our pictures up. I mean, there's just a lot of ways that you can create content. (Participant #8)

While most business owners have to spend a distinct cost for each good that they sell, digital content creators can repurpose a single piece of content to generate revenue in numerous ways, which keeps total costs low. Moreover, this strategy could also be used to minimize costs for e-commerce entrepreneurs who create content as a way to market their business. Thus, the nature of digital content, which serves as revenue-generating material for some and marketing material for others, can enable low-cost business operations, making e-commerce businesses more accessible for disabled entrepreneurs.

From this evidence, e-commerce businesses may be operated on low expenses and involve little upfront capital commitment due to the nature of the underlying internet components which support them. These advantages of e-commerce business mitigate a barrier of financial constraints that disabled entrepreneurs typically face. However, the evidence above specifically focuses on the low-cost nature of online stores and to a lesser extent content creator business; app-based businesses do not necessarily enjoy the same low-cost benefit. Participant #4, whose business is based around an app, discussed how much of her cost base was the programmers she hired to build her app. Entrepreneurs who are creating apps instead of online stores thus may face a bulk of their costs in the form of upfront, fixed costs, making app creation a less accessible type of e-commerce business in this regard. The high fixed costs of building an app may also necessitate disabled entrepreneurs to seek outside funding, which was evidenced by the fact that

the only two study participants who did not bootstrap their businesses were those who had built apps. This potential reliance on external financing, which entails the typical challenges in accessing capital mentioned earlier, further makes apps less accessible of a business than low-cost e-commerce stores.

Additionally, though e-commerce businesses may appear low-cost on the surface, the complexity of some aspects entails further expenditures. In particular, some business owners explained that e-commerce business functions like setting up an online store and conducting organic marketing are difficult to understand and execute well, so they must hire outside help to conduct these parts of their business, taking away much of the cost savings of e-commerce businesses. To highlight the difficulty of building an e-commerce store on Shopify, Participant #10 exclaimed that she would “rather have a root canal” than set up her Shopify site. Participant #7 stated that when she joined Shopify her sales plummeted as nothing was set up correctly, and while she learned how to use it over time, “things are [still] not perfect.” Though many e-commerce entrepreneurs did not express challenges with using Shopify, e-commerce business can clearly be difficult to establish for some entrepreneurs, leading to frustration and a lack of success. Similarly, organic marketing can be challenging to run effectively; Participant #10 described how marketing a business on social media is much more complicated than running a personal social media account. Confronting the complexity of e-commerce business operations, disabled entrepreneurs may have to hire consultants to help build their store or market their business, which adds significant additional costs. For example, Participant #7 explained that the website consultants she hired are quite expensive, with one consultant charging \$200 an hour, and Participant #10 stated that she spent “a few hundred dollars here or there” to optimize her organic marketing. Evidently, e-commerce businesses are not always low cost and accessible, as

e-commerce business functions can be difficult to grasp and may require significant investments in consultancy and assistance.

### *Business Flexibility and Supplementary Income*

E-commerce businesses also mitigate financial barriers to entrepreneurship in a less direct way. Specifically, I found that many disabled entrepreneurs took advantage of the flexibility of their e-commerce business and maintained other streams of income while running their business, allowing them to better support their business venture. Interestingly, several participants—particularly Participant #2, Participant #5, and Participant #6—continued to generate outside income while running their business. Participant #5 described how she was able to split time between her business and working another job, explaining “It would be maintenance more so. I would make Facebook posts, Insta posts, social media posts. I would find ways to connect with people and tell them about the product.” In this example, an e-commerce entrepreneur can easily throttle down monetary and time expenditures in their business, allowing them to minimize losses from the business and to earn income from an outside source. Thus, this flexibility of e-commerce businesses allows for entrepreneurs who face monetary constraints to persevere while they are still building and scaling their businesses. Though I found no evidence to suggest that traditional business can’t enable this kind of flexibility, disabled entrepreneurs with traditional businesses may be less capable of working additional jobs to support themselves, as traditional business is less flexible due to higher fixed costs and more rigid scheduling.

However, evidence of disabled e-commerce entrepreneurs maintaining other streams of income may also be a negative sign for the e-commerce business model. Specifically, this reliance on outside income shows that disabled entrepreneurs may face challenges in scaling their e-commerce businesses so that they can reach large enough scale to provide a sustainable

source of income. This potential challenge for disabled e-commerce entrepreneurs is of tremendous importance and will be taken up in greater detail in a later section of this paper.

### **Advantage #3: Mitigating Educational Constraints Through Accessible Training**

Business-specific education and training is instrumental to the success of many disability-owned enterprises (Anderson & Galloway, 2012; Csillag, 2019; Dakung et al., 2017; Mota et al., 2019; Muñoz Castellanos et al., 2019). Disabled entrepreneurs face entrepreneurial barriers in this regard, as they often experience challenges in accessing business training (Casado & Casau, 2019; Viriri & Makurumidze, 2014) and a lack of government-provided training resources (Hwang & Roulstone, 2015; Parker Harris et al., 2014). However, my discussions with disabled e-commerce entrepreneurs yielded that the education necessary to run an e-commerce business is often quite accessible, opening up more opportunities for venture creation. I discovered three factors which make e-commerce business education accessible. First, internet business tools lessen the need for hard business skills and knowledge, serving as a democratizing force in entrepreneurship. Second, there is a plethora of educational resources available to e-commerce entrepreneurs with many of these resources being free. Third, the flexible nature of e-commerce business allows disabled entrepreneurs to “learn on the job”, or continuously pick up skills and knowledge through operating their business.

#### *Internet Apps and Services Democratize Entrepreneurship*

In my discussions with disabled entrepreneurs, I found that e-commerce business tools democratize entrepreneurship by lessening the need for hard business skills and knowledge. Therefore, disabled business owners who don't have access to traditional business training may enjoy greater success in e-commerce business. One way in which e-commerce business tools democratize entrepreneurship is that they centralize business functions which are dispersed in

traditional businesses. For instance, several participants discussed the breadth of business functions which can be conducted through Shopify. Participant #6 described the broad range of supplementary apps provided by Shopify, including an app to manage supplier relationships, an app to produce business analytics, and apps that assist in email marketing. Participant #4 shared how Upwork, a popular freelancer platform, performs a similar centralization and simplification. Describing the range of freelancers available on Upwork, she explained: “Anything from bookkeeping to social media to technical people, they seem like they have it all.” By centralizing all of disabled entrepreneurs’ hiring needs in one place, platforms like Upwork make hiring simple compared to other, less streamlined methods of recruiting. In both cases discussed above, entrepreneurs of all backgrounds, and especially entrepreneurs who lack formal business training, benefit from the centralization of business functions in internet business tools, which makes entrepreneurship more straightforward and approachable.

Outside of the centralization of business processes in single tools, I identified evidence of two other characteristics of internet business tools which democratize entrepreneurship. Closely connected to consolidating multiple business functions, internet business tools also may absorb certain business tasks, lessening the entrepreneur’s responsibilities. Participant #4 illustrated this point in the case of Upwork:

I like that I pay through them so that I'm not having to deal directly with people. I had an instance where I was paying someone locally for doing social media. I realized, oh my gosh, I didn't pay her on Friday. So, what I love about Upwork is they put in their hours and then they automatically pay them by that Monday. It's just one less thing that I have to deal with as an entrepreneur. (Participant #4)

For Participant #4, Upwork helped her avoid errors in paying contractors by automating the payment for her. By picking up some of the blocking and tackling tasks of business, internet business tools allow for entrepreneurs to focus their energies on core business operations and avoid errors that may be more likely with a lack of experience or formal training. Additionally, internet business tools may offer customer support services which further make e-commerce businesses more accessible. Both Participant #2 and Participant #6 noted the availability and quality of Shopify's customer service. Participant #6 explained that "if you ever have a problem...they'll try to help you as they can", whether the entrepreneur may be dealing with a faulty website or an issue with an order. By providing these additional lines of support, the internet business tools which undergird e-commerce business make entrepreneurship more approachable to those who lack business training, such as many disabled entrepreneurs.

#### *Online Educational Resources*

E-commerce businesses are also supported by a plethora of educational internet content which allows for disabled entrepreneurs to receive business training through non-traditional means. The benefit of internet-based content is that it is abundant and easily reached, which is made possible by the internet's ability to cheaply distribute content, allowing it to overcome challenges of traditional education and reach a greater number of people. Fundamentally, traditional business education and training programs are based in a physical setting which necessarily restricts the accessibility of business knowledge and the number of people who can access it. Moreover, traditional training options may be inaccessible for disabled entrepreneurs. Participant #9 explained this, noting how most of the business accelerator programming she was aware of were in-person, early in the morning, inflexible, and costly, forming a range of barriers that prevented her from applying. As a solution, the internet breaks down distribution frictions

and allows business training resources to be obtained by anyone who has an internet connection, making education altogether more accessible. Participant #1, who offered business training for disabled entrepreneurs, explained how business resources for disabled entrepreneurs are quite limited, as well as how conducting programming in person limited the reach of his efforts. Looking to the future, he imagined: “How can we use...the internet to scale our services? What would it look like to support 1,000 people now?”. The internet can clearly play an important role in making business training more accessible to a broader number of entrepreneurs, thereby opening entrepreneurship to a greater range of people.

Several e-commerce entrepreneurs I spoke with improved their business operations through readily available online business training courses. For example, both Participant #5 and Participant #6 participated in accelerator programs focused on internet-native clothing brands. Outside of making training resources more accessible, the internet was noted by participants to make these training options more flexible compared to in-person training. Supporting this, Participant #6 explained how she has been splitting up the content in her training program because she already has a very busy schedule between running her business and working other jobs to support herself. In less flexible, physical forms of business training, time-constrained disabled entrepreneurs may not be able to dedicate the time to a chronologically consolidated training and thus may miss out on this essential instruction.

While the internet does benefit disabled entrepreneurs greatly by making training options more widespread and flexible, significant cost barriers to this training do remain. For both Participant #5 and Participant #6, online training courses cost them several thousand dollars. Thus, financially constrained disabled entrepreneurs may still face barriers to affording business training, even if it is distributed through the internet. However, a large number of disabled e-

commerce business owners also take advantage of informal, free online business education and training, which presents a much more financially accessible solution. Participant #9 demonstrated exactly how e-commerce entrepreneurs can build up business know-how from stitching together a variety of internet resources:

In terms of how to actually set up a design business freelance, I had absolutely no idea. I just Googled it. I watched some YouTube videos. I follow some people online. But that was about it, there was no like formal introduction to it. I was just piecing it together from bits and pieces online. And I still do that now. (Participant #9)

For Participant #9, a formal business education with a hefty price tag was not necessary to start her business; she was able to affordably build up knowledge through combing the internet for solutions.

However, an informal, online education has its own drawbacks compared to paid training; specifically, the cheapness of this approach may come at a tradeoff with quality. Participant #9 illustrated the primary issues with informal internet education through a few examples. First, Participant #9 stated that it can be hard to appraise the legitimacy and correctness of online business advice coming from “some random person online”, which is largely unvetted and abundant in nature because of the minimal barriers to sharing information over the internet. Additionally, Participant #9 explained that not having a “basis of knowledge” made it difficult to know what to look for or how to start her unstructured educational journey on the internet, which made the process confusing and slow. Lastly, Participant #9 stated that the mode of free internet education involves “a lot of trial and error” and can be inefficient, as sometimes completing a process may take “ten times as long as it needed to be” when learning in a piecemeal fashion through the internet. Evidently, though disabled e-commerce entrepreneurs



can affordably gain the education they need to succeed through piling together various internet resources, this approach may be less reliable, straightforward, and efficient than more formal methods of training.

Regardless of the challenges of relying on free, internet resources, this approach was central to many participants' entrepreneurship. Participants highlighted some especially instrumental educational resources on the internet which carry their own individual strengths. First, both Participant #8 and Participant #9 discussed how free business-oriented podcasts helped hone their business skills. When asked about what resources she tapped to gain business know-how, Participant #8 responded that she listens to a lot of podcasts, citing one particular podcast that offers general business advice. Participant #9 added that she finds podcasts especially useful, explaining "[they are] a good way of hearing from someone that is actually running a business...as opposed to big institutions where they sort of avoid questions. Someone that's been there knows how frustrating it is at the beginning." Clearly, podcasts can serve as an instrumental learning resource for e-commerce entrepreneurs, especially for those seeking more practical advice.

Second, some participants made wide use of YouTube as an educational resource. For instance, Participant #6 watched videos on YouTube to learn about resources which she could use to build her business, including grant opportunities and training opportunities. Participant #9 watched YouTube videos to directly educate her on how to run aspects of an e-commerce business. Further, she described how she would utilize YouTube's recommended engine, stating "I'd find a YouTube video and then maybe there would be like 'suggested', or 'play next' YouTube videos. And so, I'd say 'Oh, well, maybe I'll try that.'" Thus, disabled entrepreneurs can utilize internet videos to both gain information about business resources and to pick up

operational skills. Further, video platforms such as YouTube can evidently clarify an unstructured online educational process through consistently surfacing relevant recommendations.

Third, some participants crowdsourced business knowledge from fellow entrepreneurs on Facebook Groups. The internet has already been noted to facilitate peer-to-peer sharing, thereby lessening inequities in information for disabled individuals (Yu et al., 2019), and my own research supported this finding in the context of entrepreneurship. Participant #2 discussed how she often used Facebook Groups to find recommendations for the highest quality buyers and freelance workers. Similarly, Participant #10 stated that most of the technical help she has sought has been through a particular Facebook group she is in. Describing the group, she stated "... [they have] a bunch of experts in all kinds of different aspects of running your own business— social media, SEO, e-commerce platforms like Shopify and Wix." Beyond a source of expert advice, she also valued the Facebook Group as way to connect with other entrepreneurs. She explained "you could access all this information and be part of a community of entrepreneurs, you can get expert help, along with peer support..." For some e-commerce entrepreneurs, Facebook groups can thus be an excellent way of accessing important advice, support, and connections from fellow entrepreneurs, serving as an informal means of business training.

Evidently, there is an ample amount of ways in which e-commerce entrepreneurs can access informal training on the internet. Disabled e-commerce entrepreneurs can then benefit greatly by substituting these alternative forms of training for exclusive and expensive traditional business training options that remains inaccessible to some, though these informal modes of training may lack in reliability, clarity, and efficiency compared to traditional options. Additionally, it should be noted that accessible, internet-based training resources are not

necessarily only a benefit for e-commerce entrepreneurs; brick and mortar entrepreneurs could also apply informal internet-based training as they operate their business. However, in some cases, internet modes of business training may be especially advantageous for e-commerce entrepreneurs. In the case of informational videos, for example, the video creator can replicate exactly what the viewer would see on their own screen and thus give more direct instruction. However, further evidence is needed to substantiate this point.

### *An Ability to Learn on the Job*

Finally, disabled entrepreneurs with a lack of business training may find e-commerce businesses to be more accessible, as they allow disabled entrepreneurs to “learn on the job”. Many disabled e-commerce entrepreneurs I spoke with didn’t enter with a wealth of business knowledge and some didn’t even have a concrete plan for their business. However, they were able to take advantage of the flexible nature of e-commerce business and their ability to run an e-commerce business at a low cost and scale in order to trial different business strategies, receiving an experiential education in business while still generating some income.

Multiple participants discussed how the flexibility of e-commerce business allows for strategies to be trialed easily, thereby enabling them to learn on the job. Participant #9 presented an excellent case. She explained how her business morphed from a blog to an informal social media portfolio of graphic designs to a freelancing business, which then was accompanied by a merchandise store. She explained part of her business evolution:

People came to me because they wanted some more things I was making for fun—like I was just sketching it. And then that's, that's when the merch store happened as well, because I was illustrating these things on products just for fun. And people told me that they would buy it. So, I thought, okay, I'll give that a go. So that's when I set up the

fulfillment stuff. And there was no risk of there for me, because I didn't have to put in like a lot of cash to start with to buy these products. (Participant #9)

Equipped with social media pages that posed zero cost and a low risk drop shipping model, she slowly adapted the nature of her business to trial potential ideas and exploit opportunities when they were presented. Thus, Participant #9 was able to figure out her business strategy through experience alone instead of relying on formal business training. Participant #6 also benefitted from being able to learn on the job, taking feedback from her current experiences and adapting her website format, her marketing strategies, and even her business model. In the case of business model, she explicitly expressed an ability to learn on the job, saying “we’ll see where it goes” as she wavered between a drop shipping approach and a wholesale approach. For Participant #6, the opportunity to try out different tactics and learn through mistakes serves as an alternative source of education and is crucial for the development of her business.

This ability to learn through challenges is particularly significant given that disabled entrepreneurs have been argued to gain entrepreneurial skills by forming adaptations to challenges they face from their disability (Hsieh et al., 2019; Miller & Le Breton-Miller, 2017; Ng & Arndt, 2019). Participant #7 explained how in general disabled people often improve through confronting challenges, stating “The only way you learn is to fall, get up, and learn...Being disabled, you have to learn something and keep going—that’s how you’ll get better. It’s that attitude.” Though learning styles will certainly differ by individual, a trial and error learning style of e-commerce businesses may evidently suit disabled entrepreneurs especially well, and thus disabled entrepreneurs may benefit from a style of entrepreneurship that allows them to learn from experience.

While it might be contested that disabled entrepreneurs could also learn through experience in brick and mortar business, and thus this proposed strength of e-commerce businesses is null, e-commerce business likely offers a better environment for this educational approach. This is because the physical business model involves higher fixed costs, and thus the financial risk of trying out a new strategy which may fail is higher. This higher cost of mistakes from trying out different strategies may thus discourage learning on the job. Additionally, different strategies and business models can be adopted with greater ease in e-commerce due to the fluid nature of the e-commerce business model (Nambisan, 2017).

### **Challenges for Disabled E-Commerce Entrepreneurs**

The above findings suggest that e-commerce businesses have characteristics which can help mitigate barriers into traditional businesses faced by disabled entrepreneurs, making this e-commerce business type more accessible. However, the e-commerce business model holds its own set of challenges which impede the success of disabled entrepreneurs. Here, I discuss some of the most common challenges that disabled e-commerce entrepreneurs highlighted in our conversations.

#### *A Lack of Scale and Sufficient Income*

First, and most prevalent of all challenges discussed, many disabled e-commerce entrepreneurs failed to secure a sustainable income from their business. As discussed earlier, several disabled e-commerce entrepreneurs stated that they continue to work outside jobs in order to support themselves. Additionally, of participants who opted to disclose their revenue and were not pre-revenue, all either expressed that their sales were below their goals or stated that their business was at risk of closing due to a lack of sales. For the former case, Participant #8 stated that while many of her friends assume that she is making a substantial income from her

business, this is not the case. She stated that “It’s a lot of work, but not that much money. But it’s about passion...” and later adds that “if I had an office job, it would be more lucrative.” For the latter case, Participant #7 explained how her business had really become more of an “expensive hobby”, as she only is making a few sales a day, and may need to close soon if sales do not improve. In these examples, both Participant #8 and Participant #7 stated that their e-commerce business allowed them to pursue work they cared about, but ultimately acknowledged struggles in earning a sustainable income through this mode of work.

While it cannot be concluded that this lack of earnings is especially common among disabled e-commerce entrepreneurs versus disabled traditional entrepreneurs, certain characteristics of e-commerce business may hinder entrepreneurs’ ability to earn sufficient income. Participant #10 highlighted how one of the identified advantages of e-commerce business for disabled entrepreneurs, its lack of need for investor capital, necessarily leads to slower business growth. When asked what her greatest challenges to scaling her business were, she explained “[It’s] a lack of funding. I get sales and then I put those back into the business, but it’s not enough to sustain me.” Clearly, only investing earnings instead of outside capital can make effective scaling difficult. Additionally, the informal business education which enables some disabled entrepreneurs to start a business in the first place can also limit their growth potential. As discussed earlier, Participant #9 demonstrated how informal methods of learning on the internet, which many disabled e-commerce entrepreneurs rely on, can be confusing and inefficient. In fact, as earlier stated, she shared that her process of learning could cause some things to take “ten times as long as it needed to be”. Thus, the informal path of education that many disabled e-commerce entrepreneurs follow can also hinder the entrepreneurs’ ability to grow their business and their income. From these examples, some seemingly positive e-

commerce business characteristics, like self-funding and learning through informal methods, might prevent disabled entrepreneurs from reaching the business scale they would like and earning a sufficient income.

### *Continued Accessibility Challenges*

Second, though my research generally showed that the e-commerce business model may make entrepreneurship more accessible than a traditional business model, the e-commerce business model still poses accessibility challenges for disabled entrepreneurs. This is evident in existing literature on internet and computer accessibility (Maritz & LaFerrier, 2016) as well as in my own findings. In my own research, while accessibility challenges were not a primary barrier identified by participants, some participants expressed challenges that prompt attention. For one, Participant #6, who has cerebral palsy, said she is a slow typer, which impedes her pace of work and ability to succeed compared to others who can “slide across the keyboard”. Participant #6 also shared how the nature of her business forces her to sit at the computer for many continuous hours, which ultimately causes her a lot of back pain, though she was not certain if this is due to her disability. Participant #4 explained how remote business can pose a different set of challenges for those with ADHD, as she described how the lack of structure involved in a remote business and the ability to quickly switch between windows on a computer can cause her to get distracted easily. Clearly, those with both physical and psychological disabilities face functional challenges in running an online business due to the nature of the work and the technology that enables it. Though it is not in the scope of this research, internet accessibility challenges for e-commerce entrepreneurs with sensory disabilities should also be explored.

*An Outlet for Unhealthy Work Attitudes*

Third, e-commerce entrepreneurship can encourage excessive work, which may pose physical and psychological costs on disabled entrepreneurs. Several participants I spoke with explained that, in order to evade stereotypes about having a disability, disabled people are often pushed to develop an intense work ethic, which can in turn have negative consequences.

Participant #8 explained this reaction:

I think that we do a lot to try to prove ourselves, to try to prove that we can overcome our disability and all this stuff that isn't real. Especially in the workforce we don't want you guys to see weakness, we don't want you guys to know that we're hurting. (Participant #8)

Participant #6 added to this sentiment, explaining how her parents taught her that she needed to excel at all she pursued in order to overcome the negative stereotypes of disability, but now it has become overwhelming, stating “At 32 I'm like, I'm kind of tired...Can I just take a break?”.

From these comments, it can be seen that societal pressure to work hard comes at a cost, particularly in exhaustion and pain.

While disabled individuals face pressure to work incredibly hard in many facets of life, not just entrepreneurship, business culture especially rewards what some participants called a “grind culture”, which further encourages this intense work ethic and its harmful effects. Many of the entrepreneurs I spoke with described how they worked throughout the entire day. For some participants, their business efforts consumed much of their life; Participant #10 explained how some days it feels like she works for 24 hours, as any minute not spent on doing business work is spent thinking about business ideas. Participant #8 discussed the massive time commitment necessary for business success, stating “if you're an entrepreneur and you really want to make it out here, you got to work.” Later, she added: “I wouldn't recommend being an



entrepreneur, if you don't like work.” Therefore, entrepreneurship may serve as an especially fitting outlet for disabled people to work incredibly hard at the expense of their own health. The grind culture in business may also pose psychological tolls on those who have to limit their work due to their disability. Participant #9, who had to limit the time she works due to the nature of her disability, shared this sentiment, noting “It was difficult feeling valid in what you're doing because you're doing it differently from what everyone else is telling you...[They say] have a five-year plan, really push yourself. I can't do any of that.” Therefore, the nature of e-commerce business can doubly harm disabled entrepreneurs: it can facilitate a propensity to overwork which can pose its own set of harms, and it can invalidate those who aren't able to subscribe to a grind culture mentality.

However, it is difficult to say whether this challenge is more severe in e-commerce businesses or traditional businesses. While some may think it may be more difficult to maintain a healthy work life balance in remote work, as there is no physical separation between work and home, this sentiment was not found in my research. In fact, Participant #9 argued that her e-commerce business actually promotes a healthier lifestyle, as she stated that she is naturally limited to work at a healthy pace because she does not have a flux of capital to propel her business and thus must grow it slowly. However, more evidence is needed to draw a definitive conclusion and the distinctions here between e-commerce business and traditional business are subject for further debate.

#### *A One Person Show*

Finally, running a business by oneself—which can be characterized as a “solopreneur” model—is a common characteristic of e-commerce business and may have negative effects on business success. All of the participants I spoke with had no formal employees, and while some

contracted workers, others handled all work themselves. While physical businesses can certainly be run by a single person as well, some participants speculated that for them an in-person business might entail a support staff. One particular challenge of running a business alone is that it forces the entrepreneur to take up a range of tasks that they are not good at and takes away their focus from their particular strengths. Participant #5 highlighted this, noting that when her business was in full swing, she was fulfilling every function of the business, which overwhelmed her. Reflecting on her experience, she stated “If I could do it again, I would get everyone to run it for me and I would keep designing.” For Participant #5, the nature of e-commerce was detrimental to her success, and she felt that she might have more success in a more structured organization where she could focus on her particular strengths. Another challenge of the solopreneur model is that, faced with a wide range of business functions to execute, entrepreneurs have to learn a set of new principles and master unfamiliar software. Participant #7 expressed how learning can be challenging for a time-constrained entrepreneur, stating:

When you’re doing everything yourself, you use the skills you have, and I don’t have the computer skills I’d like to have. And it’s hard to learn a lot when I’m running the rest of my business. I try and learn a little bit each week, but it’s hard to get better. (Participant #7)

Faced with a heavy workload as a solopreneur, Participant #7 had little time to dedicate to learning important skills for her business and thus was only able to improve slowly. These above instances show how an aspect of e-commerce business—the ability to centralize duties and operate with a single person—which may initially appear as a strength has its own sets of challenges.

## Policy Recommendations

Below, I deliver three policy recommendations derived from the pre-existing literature on disability entrepreneurship and my own research findings. Given this paper's particular focus on e-commerce business, these recommendations were primarily formed to confront challenges faced by disabled entrepreneurs with e-commerce businesses. However, the following policy recommendations are intentionally made broad in scope so as to benefit all types of disabled entrepreneurs.

### **Policy Recommendation #1: Establish a Federal Agency Focused on Providing Grants and Loans for Disabled Entrepreneurs**

My research demonstrated that the e-commerce business model can lower barriers to entrepreneurship for those with disabilities. One primary reason for this is that e-commerce businesses inherently involves less costs, lowering financial constraints to starting a business. However, though the nature of e-commerce business allowed disabled entrepreneurs to get their business off the ground easily, many participants stated that their business hasn't scaled as much as they'd like and that they want to earn a larger business income.

Given these findings, disabled entrepreneurs could benefit from government-provided capital to help grow their business. While a cash injection may not be necessary to start disabled entrepreneurs' e-commerce businesses, it could be utilized to help them scale their business and achieve a sustainable income. Moreover, government action is important to ensure access to capital, as private funding has been shown to be difficult for disabled entrepreneurs to access both in academic literature (Boylan & Burchardt, 2003; Hwang & Roulstone, 2015; Martínez-León et al., 2019; Renko et al., 2016) and in my own findings.

As it currently stands, aspiring disabled entrepreneurs in the US have little access to government-backed financial support. In fact, according to the Small Business Administration's web page on resources for disabled entrepreneurs, federal and state government agencies do not provide grants specifically for disabled entrepreneurs. Moreover, there is no central federal program which issues loans to disabled entrepreneurs and there are very few state programs. Of the state loan programs that are listed, some are not designated exclusively for disabled entrepreneurs, some only can be applied towards the purchase of assistive technology and accessibility construction, and some have links to now non-existent web pages, which shows that these programs were discontinued or are at the very least are poorly promoted ("People with Disabilities", n.d.).

There should be a significant increase in government-backed financial support for disabled entrepreneurs. Given little action at the state-level, the federal government should establish an agency under the U.S. Department of Commerce specifically designed to provide grants and loans to disabled entrepreneurs. There is precedent for an agency of this character, as the Minority Business Development Agency (MBDA) of the U.S. Department of Commerce already exists to serve minority-owned businesses through provision of loans and grants ("Who We Are: MBDA", n.d.). To help advance e-commerce businesses specifically, this new agency could follow the lead of pre-existent state programs like Maryland's WorkABILITY Loan Program and Michigan's Telework Loan Fund and offer financial support for expenses related to home-based businesses. Ultimately, increasing federal financial support for disabled entrepreneurs, particularly those with e-commerce businesses, would enable disabled individuals to better scale their businesses and earn a sufficient business income, making entrepreneurship a more accessible and attractive option for disabled individuals.

## **Policy Recommendation #2: Expand Provision of Business Training and Resources for Disabled Entrepreneurs**

With regards to business education and training, my research exposed a similar conundrum as was demonstrated in access to capital. Namely, e-commerce businesses hold lower formal training requirements to starting and running a business, which allows for disabled individuals with little formal training to more easily pursue entrepreneurship. However, many disabled entrepreneurs discussed a lack of sustainable income from their business, and greater access to formal training may still be important for scaling a venture so that it provides reliable income. This finding is backed by my research findings, particularly through Participant #9's explanation of how learning through the internet can make for slow and inefficient business scaling.

As a guiding principle, the government should focus on expanding educational resources designed for disabled entrepreneurs specifically. This value of support programs focused on disabled entrepreneurs is supported by literature (Cooney, 2008; Shaheen, 2016) and my own research, where I found from Participant #1 that disabled individuals place a high value on the chance to network with and learn from others who have a disability. Additionally, many participants expressed that they had issues accessing needed accommodations or often felt that they would be penalized or discriminated against for revealing their disability when working in primarily non-disabled environments. Even in cases where accommodations are provided, disability-focused resources go further by making accessibility the default.

There are multiple ways by which government entities can enable these resources through policy. One potential solution is for the federal government to establish a new, permanent business education and training system for disabled entrepreneurs. The potential for success of these resources is exhibited by the success of the StartUP NY project, a demonstration project in

which a center was temporarily set up to help disabled individuals develop their businesses. Years after the program ended, 46 participating businesses continued in healthy operation when their initial goal was to merely help start 30 businesses (Shaheen, 2016).

As a particular means of implementing a new system, the government could establish a network of local business centers for disabled entrepreneurs. This step could be taken through a newly established government agency recommended above; the analogous MBDA serves as precedent for this, as it provides both financial support to entrepreneurs and educational resources through its own network of business centers (“Who We Are: MBDA”; n.d.). Combining aspects of MBDA business centers and the StartUP NY projects, these business centers could facilitate business planning training, information on how to access funding resources, and expert advice on scaling strategies. These programs could support all types of disabled entrepreneurs, but employment of e-commerce business specialists would be necessary to address the unique characteristics of the business model. The major limitation of this particular solution would be its cost burden, as significant resources may need to be employed in order to establish physical locations and staffs across the country, though adopting virtual elements may help lower the overall cost.

As a lower cost alternative to a new system, disability-focused entrepreneurial resources could be expanded through already established vocational rehabilitation (VR) agencies. VR agencies’ have demonstrated success in improving employment prospects for disabled individuals (Bal et al., 2021; Roux et al., 2020), which suggests that these resources could achieve similar results for disability entrepreneurship. However, VR agencies in the US have had a history of neglecting self-employment opportunities for disabled individuals despite being authorized to support these options (Cooney, 2008; Shaheen, 2016). Given this, the federal

government should take action to incentivize greater emphasis on options of self-employment within VR agencies through means like grants for state VR agencies that produce successful business owners and grants for state VR agencies that hire former disabled entrepreneurs.

### **Policy Recommendation #3: Subsidize Assistive Technology**

While my research has demonstrated that e-commerce businesses are in many ways more accessible than traditional businesses, e-commerce businesses still face accessibility challenges which demand attention. Some aspiring disabled entrepreneurs still face challenges accessing the internet or computer technology according to existing literature (Blanck et al., 2000; Maritz & LaFerrier, 2016). My own research also demonstrates that e-commerce business continues to pose accessibility challenges. Under the logic of the Social Model, we should continue to work to make sure disabled individuals have equal opportunities to participate in society, and thus should vigorously address remaining accessibility challenges to starting e-commerce businesses.

To help mitigate accessibility challenges, I propose that assistive technology (AT) receive heavy government subsidies. Though AT has helped many disabled entrepreneurs overcome accessibility barriers, it still remains expensive or difficult to access in some areas (Hsieh et al., 2019). These issues can be addressed through either supply-side or demand-side subsidies. If supply-side subsidies are introduced, the supply of AT may see a corresponding increase, both increasing its availability and potentially lowering prices through more supplier competition. However, this approach has uncertain efficacy, as the subsidies do not directly make AT more available and affordable but instead rely on the operation of free market mechanisms to achieve the desired effects. Instead, the US government could offer demand-side subsidies through directly reimbursing disabled entrepreneurs for AT expenses. Though this approach would likely be more costly, it would directly erase a barrier that prevents equal opportunities for disabled

individuals and would thus be justified under a Social Model approach. As a final benefit of subsidizing AT, subsidies could also encourage greater AT innovation, which may help address hindering implications of some disabilities that cannot be accounted for with existing AT.

## Conclusion

Despite the continued efforts of the Disability Rights Movement and protections under US laws, disabled Americans are still prevented from full inclusion in society, particularly in the workplace. Disability entrepreneurship has recently emerged in academic circles as a particularly important mode of inclusion, but surprisingly little insight has been established as to particular merits and challenges of e-commerce entrepreneurship. My research fills this gap by approaching e-commerce businesses as a unique type of business model and generating insight into the potential benefits and shortcomings of the e-commerce business type compared to traditional, brick and mortar businesses for specifically physically disabled entrepreneurs.

Through conducting 10 semi-structured interviews with disabled entrepreneurs, I made the following conclusion: the e-commerce business model appears to be a more accessible business model for physically disabled entrepreneurs, as it mitigates some of the central challenges in starting and operating a business that disabled entrepreneurs typically face. First, through the qualities of remote work, e-commerce business mitigates accessibility challenges for physically disabled entrepreneurs related to the place of work and the time of work. Second, e-commerce business has qualities which make it generally lower cost to establish and operate, mitigating financial constraints often faced by disabled entrepreneurs. Lastly, e-commerce business is made operable through alternative forms of education and training which can substitute for formal business training that disabled entrepreneurs often lack access to.



Disabled entrepreneurs also face their own set of challenges which shape how the US government should approach policy. Particularly, though e-commerce businesses have qualities which make them easier to establish, disabled e-commerce entrepreneurs still often face challenges in scaling their business so that they can earn a sustainable income. Additionally, a lack of accessible technology may impede disabled entrepreneurs' success. Given scaling challenges, I proposed that the US government extend financial assistance and training opportunities to disabled entrepreneurs in order to help them scale their ventures. Though I suggest several different routes for how these broad recommendations can be implemented, I primarily propose the formation of a distinct federal agency under the U.S. Department of Commerce which can aid disabled entrepreneurs through both funding and training opportunities. Moreover, given the lack of accessibility in existing computer technology, assistive technology should receive heavy subsidies.

These research findings have meaningful implications. While e-commerce entrepreneurship—and entrepreneurship more generally—will certainly not be a fit for every disabled individual, my research showed that this form of work holds immense opportunities for disabled individuals seeking greater participation in society. E-commerce businesses lessen barriers that have impeded aspiring disabled entrepreneurs in the past and present a path for greater economic independence and inclusion. Furthermore, by making entrepreneurship more achievable for disabled individuals, the e-commerce business model may also have positive implications for broader society. Under the logic of Schumpeter, facilitating entrepreneurship among disabled individuals can unlock a previously under-utilized source of innovation, driving substantial economic and societal growth.

Still, e-commerce entrepreneurship is not a panacea as it stands today—more work must be done by the government and academic communities to develop this opportunity for disabled individuals. For government action, the policy recommendations in my research serve as a useful starting point to resolving remnant barriers faced by disabled e-commerce entrepreneurs. For academic action, further qualitative research should be conducted to generate a deeper understanding of e-commerce business opportunities. Due to the time and resource constraints of this project, the number of participants I could speak with was limited. Moreover, because this project was the first to explicitly explore disabled e-commerce entrepreneurship, the scope of my research was quite broad. Future research can improve on these shortcomings by including a larger number of participants, exploring particular types of e-commerce businesses such as app-based businesses and online stores, and probing more specific aspects of e-commerce businesses. Additionally, future research should explore how different types of disability, such as intellectual disabilities and sensory disabilities, impact e-commerce entrepreneurship. Given the immense value that can be unlocked by e-commerce businesses, it is incumbent upon political and academic communities to continue the exploration that has been launched in this paper. Such efforts will allow disabled people to enjoy fuller inclusion and can make a better society for all.

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## Appendices

### **Appendix A: Interview Questions**

#### **Introduction Question**

Q: Could you give a brief description of your disability and when in life you developed this disability?

#### **General Business Questions**

Q: Could you give a general description of your business?

Q: How does your business generate revenue?

Q: What are the main costs of operating your business?

Q: How many employees do you have?

#### **Business Formation Questions**

Q: What was your employment history like prior to starting your business?

Q: Did you feel that you ever faced discrimination in your employment or while searching for employment?

Q: Could you give a description of the events that led up to you starting your business?

Q: What was the motivation behind your business?

Q: What was the process like of initially funding your business?

Q: Could you discuss any other resources you tapped to start your business?

Q: In general, why did you choose entrepreneurship?

Q: Have you ever considered running a business in person?

Q: Why specifically did you choose to start an e-commerce business?

#### **Business Operation Questions**

Q: How many hours a day do you spend working?

Q: Could you discuss your level of satisfaction with the work you are doing?

Q: What are the most important skills to your business?

Q: What tools are most important to running your business (ex. a software program/application, a machine, etc.)

Q: What personality traits of yours do you believe have allowed you to have success as an entrepreneur?

Q: How has your disability impacted your day-to-day operations of your business?

Q: Have you ever faced discrimination in conducting your business?

Q: In general, what are the greatest barriers you face in running your business?

Q: Have you considered expanding your business?

Q: How has running your business remotely impacted your lifestyle?