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Collaborative Inclusion in South African Restaurants:

A Case Study on Disability and Accessibility

by

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Abstract

The study explores social inclusion barriers faced by people with disabilities in the hospitality industry and solutions to promote inclusion. Moreover, the study draws attention to an industry where exclusionary practices typically deprive people with disabilities of full participation in social activities and contributes to the literature on collaboration in design thinking. Using design thinking as a collaborative and inclusive innovation process between disabled and nondisabled participants in a two-day workshop, it describes the co-creation of solutions to overcome information barriers for disabled restaurantgoers. Removing these barriers equips disabled restaurant patrons with the information needed to make informed decisions to partake in social settings where physical barriers are commonplace. This qualitative study employed a single instrumental case study design, gathering data through interviews and observations and is analysed using Braun and Clarke's six-step framework. The findings are presented as three themes: First, inclusivity creates a welcoming setting in design thinking workshops by coupling accessibility with diversity. Second, resilience is critical in overcoming collaboration barriers and normalising accessibility among disabled and nondisabled participants. Third, synergy, forged by collaboration and efficient communication, shows the impact of collaborative efforts in fostering inclusivity and, ultimately, achieving social inclusion. Ethical considerations prioritised participant autonomy through transparent communication and incorporated their views in the development of the study through exploratory conversations. Based on these findings, this study contributes practical guidelines to improve accessibility innovations practitioners and organisations serving people with disabilities could apply.

Keywords: accessibility, case study, collaboration, DT, disability, hospitality industry, inclusivity, qualitative study, restaurant, social inclusion, South Africa

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List of Abbreviations

ADA	Americans with Disabilities Act
BPS (model)	biopsychosocial (model)
CRPD	Convention on the Rights of Persons with Disabilities
DIS	Disability Inclusion Strategy
DT	design thinking
II	inclusive innovation
PAwMD	persons ageing with mobility disability
PWD	person with a disability
PWDs	people with disabilities
SA	South Africa
SASL	South African Sign Language
UN	United Nations
WHO	World Health Organisation

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CHAPTER 1: INTRODUCTION

This chapter introduces the multi-faceted landscape of disability experiences, underscoring the persistent marginalisation of people with disabilities (PWDs) in South Africa (SA). This case study's practical challenge focusses on how PWDs are marginalised due to a lack of information, a factor of marginalisation not adequately addressed in social inclusion literature. This chapter provides an overview of the marginalisation of PWDs in South Africa and highlights information gaps in social inclusion. As the study explored the intersection of policy, trust, allyship, and inclusive innovation (II), the chapter sets the stage for a unique case study exploring collaboration between PWDs and nondisabled people in a design thinking (DT) workshop, to promote social inclusion within the South African restaurant industry. Ultimately, working toward equipping PWDs with improved information about restaurants' accessibility features, promotes greater social inclusion of PWDs in the restaurant industry. In sum, Chapter 1 provides background to the study, a succinct problem statement, and an outline of the research questions with related sub-questions. It further stipulates the research aim, purpose, objectives, relevance, and structure of the dissertation.

1.1 Background to Study

Society has constructed a world that is extensively ableist. According to the World Health Organisation (WHO), 16% of the global population is considered disabled, with ever-increasing life expectancy and chronic diseases as crucial contributing factors (World Health Organisation, 2024). In SA, where this study is located, a conservative estimate of 6% of the population lives with a disability (Statistics South Africa, 2022). PWDs remain marginalised and isolated across various facets of life, including economic (Bam & Ronnie, 2021), social

(Carroll et al., 2018), and environmental (McEwan & Butler, 2007; Sandahl, 2018) spheres. In rural areas, accessibility challenges are further compounded by limited infrastructure and resources. Arguably, this marginalisation is exacerbated in developing countries, where approximately 80% of the world's disabled population lives (Charitsis & Lehtiniemi, 2023; McEwan & Butler, 2007; Nieminen & Pesonen, 2021; United Nations, 2019; Van den Brink et al., 2021).

Disability is often overlooked, and while inclusion is regarded as a human right, an ongoing disconnect between policy and practice in broader societal spheres remains evident (Bam & Ronnie, 2021; Berghs et al., 2019; Brzykcy & Boehm, 2022; Kosanic et al., 2022; Mannan et al., 2012; United Nations, 2006). Disability is no longer solely focussed on physical capabilities or individualised experiences, but is seen as socially constructed (Levitt, 2017; Oliver, 2013; Retief & Letšosa, 2018; World Health Organisation, 2021). The social model views disability in this manner, whereas the medical model focuses on individual impairments needing intervention. The social model of disability's influence on policy development is evident, while its impact continues to be questioned considering the low levels of inclusion of PWDs in education, employment, and other recreational experiences (Brzykcy & Boehm, 2022; Kosanic et al., 2022; Remillard et al., 2022; United Nations, 2006, 2019;). In this light, calls for the evolution and reconstitution of frameworks and models continue (Levitt, 2017; McEwan & Butler, 2007; Oliver, 2013).

Government's role is crucial to mitigate issues that stem from complex and intersectional experiences of disability (Remillard et al., 2022). Although challenges persist with policy implementation, they are critical tools for guidance towards a more inclusive and considerate society (Kosanic et al., 2022; Van Melik & Althuizen, 2022). Moreover, the development of more effective policies and the exploration of disability-specific policies based

on the experiences of PWDs can contribute towards improved social inclusion (Vikström et al., 2023).

The Constitution of SA sets out the need to "improve the quality of life of all citizens and free the potential of each person" (Republic of South Africa, 1996, p. 1). Furthermore, its second chapter, the Bill of Rights (Republic of South Africa, 1996, p. 6) – explicitly states that PWDs should have equal rights and that the state may not directly nor indirectly discriminate against any such person:

> The state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, disability, religion, conscience, belief, culture, language, and birth.

Significantly, the Bill further necessitates human dignity and access to information, which enables access to other rights (Republic of South Africa, 1996). Moreover, the lack of initiatives to bridge divides in policy implementation has led to the gulf between PWDs and nondisabled people (Bennett & Rosner, 2019).

Reflecting on devising reasonable accommodations for PWDs, D'Souza and Kuntz (2023) reiterate the importance of collaborative planning and how this positively impacts understanding PWDs' needs. Collaboration among nondisabled and disabled stakeholders is essential for creating inclusive environments (Fantinelli et al., 2022).

Trust is an essential element of collaboration, especially where information is shared, and it is noteworthy that there are limited studies on trust in Africa in this context (Humayun & Jhanjhi, 2019; McDonald et al., 2022; Ukpabi & Karjaluoto, 2018). According to Humayun and Jhanjhi (2019), trust is influenced by three factors: (1) propensity to trust; (2) perceived

trustworthiness; and (3) cooperative behaviours. Similarly, Bond-Barnard et al. (2018) found that the ability to collaborate in shared projects increases the likelihood of success, and positively affects trust among team members. Trust is also used as a driving force towards inclusivity in contexts where PWDs and nondisabled people interact. In a recent study on disability theatre by Hadley et al. (2022b), trust was seen as essential in fostering safe relationships to promote inclusivity. The importance of building trust, demonstrating respect, boosting flexibility, designing for accessibility, and individualising accommodations is evident where strategies for fostering trust, respect, accessibility, and engagement promotes decision-making (McDonald et al., 2022).

Bourke (2020) stresses the importance of aligning allyship with action, and according to Hadley et al. (2022b, p. 8) "cultural safety, respect, and trust" are good indicators of sound allyship. Hadley (2020) advocates for allyship theories in disability arts, recognising their transformative role. Forber-Pratt et al. (2019) position the rehabilitation of PWDs as allyship, offering eight actions for practitioners. In addition, positive relationships in accessibility research and the interconnectedness of allyship are also highlighted (Darcy et al., 2023; Hofmann et al., 2020).

There is still a need to theorise approaches to allyship, by considering the perspectives of various stakeholders on disability in practice (Hadley et al., 2022b). In this domain, Radke et al. (2020) acknowledge the tensions between disenfranchised and advantaged groups participating in socio-political movements. Few studies, however, address this tension, particularly in relation to how PWDs experience assistance from nondisabled people in creating more accessible recreational resources. This is important, as II requires and promotes allyship, inclusion, collaboration, trust, and the forefronting of PWDs, who are often disenfranchised. This innovation seeks the elevation of human connectedness and agency, where people who are often sidelined can make legitimate claims to what they are entitled to, and accrue benefits

both in process and outcome (George et al., 2012; Sengupta, 2016). For innovation to be inclusive, it must enable, empower, and be participatory (Sengupta, 2016). Within disability discourse, II relates to leveraging diversity to bridge areas of technology development, impairment experiences, anti-ableism advocacy, and disability-positive allyship (Hofmann et al., 2020).

Ultimately, including PWDs in the process of innovating toward solving problems related to disability ensures their needs are considered right from the beginning (Carroll et al., 2018; Ostroff, 2011). Moreover, co-design initiatives have been shown to be crucial for effective stakeholder collaboration in various industries (Carroll et al., 2018; Michopoulou et al., 2015; Nyanjom et al., 2018). It has also been found that creativity in collaborative efforts is essential for success, as illustrated in participatory designs in Boellstorff (2019) and Drain et al. (2018). However, more is required to develop and study collaborative frameworks and the impact of collaborative efforts between PWDs and nondisabled people (D'Souza & Kuntz, 2023).

In this regard, design thinking (DT) is a collaborative problem-solving method (Liedtka, 2015), which is also used to address accessibility challenges (Heron et al., 2022), and utilised as a collaborative and II vehicle. This non-linear, iterative process, integrating human-centred principles (*Human-Centred Innovation*, n.d.; Interaction Design Foundation, 2016), underscores creativity, user-centredness, and cross-disciplinary collaboration, but much uncertainty exists regarding its impact on organisational performance and team outcomes (Micheli et al., 2019). In solving problems, inclusivity in DT should consider the functional and non-functional factors for both PWDs and nondisabled users, cultivating personal agency for both groups (Shinohara et al., 2016). DT also focusses on trust-building through active listening and diverse teams (Jaskyte & Liedtka, 2022).

Considering low levels of participation in recreational activities for PWDs in SA, particularly within the hospitality industry, this dissertation addresses the importance of inclusionary efforts in the designing of opportunities from the perspective of PWDs. Moreover, the nature of physical and informational barriers to inclusion has been shown to limit diversity and the inclusion of PWDs in such experiences and environments. As a co-founder of the South African nonprofit Planet O – an organisation that uses technology to establish a more socially inclusive world, by providing information about inclusive experiences, particularly restaurants – the researcher has noted that PWDs are often socially isolated due to poor access to information about social opportunities in which they can partake. Subsequently, PWDs often do not know where they can go to have an active and engaging social life in a society where there are many physical barriers to entry, such as staircases and a lack of accessible bathrooms. This motivation prompted further investigation into processes that could address these shortcomings, as well as the drawbacks to innovation processes, their interlinkage and engagements with other innovation approaches, and challenges with implementation (Jaskyte & Liedtka, 2022).

The case study in this dissertation focusses on the collaboration between PWDs and nondisabled participants in a DT workshop to improve access to information on restaurants' accessibility features. The study brings forward unique and diverse perspectives, as the PWDs in this study consist of people with divergent disabilities, and their nondisabled counterparts have varying levels of previous engagements with disability. Although the majority of these participants had no prior experience with DT, the study acknowledges that PWDs had to be the primary expert collaborators (Wu, 2023).

1.2 Problem Statement

PWDs generally experience accessibility barriers and low levels of social inclusion within the restaurant industry. Beyond issues of environmental accessibility, access to information regarding restaurants' accessibility is lacking. Furthermore, most initiatives aiming for inclusivity lack collaborative efforts between PWDs and nondisabled people during the conceptualisation or design phase of innovative solutions. In this study DT is the focal inclusive innovation framework to discover how PWDs and nondisabled individuals collaborate. This study seeks to explore the collaboration process between PWDs and nondisabled people, in an attempt to improve co-created solutions for the benefit of all restaurant patrons in Cape Town to ensure a truly inclusive innovation.

1.3 Research Question

In response to the above, this study seeks to answer the following main research question:

How can collaboration between the disabled and nondisabled community in a design thinking workshop improve information on South African restaurants' accessibility features?

The following sub-questions will also be considered:

1. How does the DT process enhance collaboration between disabled and nondisabled participants?
2. Which collaborative DT activities promote the highest levels of self-reported trust between disabled and nondisabled participants?

3. What are the barriers to improved collaboration when applying DT methodologies?

1.4 Research Aim

This study aims to explore collaborative efforts to improve accessibility information in restaurants. By focussing on creating more accessible and readily available information collaboratively, the study seeks to facilitate greater social inclusion for PWDs within the hospitality industry.

1.5 Research Purpose

The purpose is to explore barriers and enablers to improving accessibility information for PWDs in restaurants.

1.6 Research Objectives

The following research objectives were considered:

1. to explore collaboration in a DT workshop;
2. to identify factors that promote self-reported trust in the DT process; and
3. to describe the barriers to collaboration within the DT process.

1.7 Research Relevance

In this exploration of the collaboration between PWDs and nondisabled people, the following contributions towards academic discourse and practice will be made:

1. The study offers insights for DT practitioners and scholars concerning the adaptations needed to make the process more inclusive for diverse user groups, in particular PWDs.
2. Restaurant, hospitality, and related communication or information specialists will have access to participants' experiences and research relating to accessibility issues in their respective industries, which could assist them in making their establishments and media outlets more accessible and socially inclusive. Restaurants can adopt findings to create accessible websites or digital tools that cater to disabled customers.
3. The research will provide rich insights for innovators aiming to solve problems related to PWDs into how trust development, collaborative efforts, and practising II can improve social inclusion for PWDs in the hospitality industry.
4. Organisations and individuals working with the rehabilitation or inclusion of PWDs will also be able to leverage the knowledge gained on the collaboration process between PWDs and the nondisabled.
5. The study will deepen the literature on collaboration within DT and highlight the role of allyship and trust in this II process. As this is a multidisciplinary study, the research explores these diverse themes within the context of accessibility and the social inclusion of PWDs. The study builds on inclusive-innovation literature, offering insights into the practical application of human-centred design and collaboration of people with diverse communication and accessibility needs, mainly to promote accessibility within the restaurant industry in South Africa.

The findings unveil learnings for improved collaboration to forge II, where PWDs and nondisabled participants work together to solve accessibility matters.

1.8 Structure of the Dissertation

The dissertation is structured as follows:

Chapter 2 presents a comprehensive literature review which explores the relevant academic scholarship. This chapter is organised around three key themes: (1) social inclusion and views on disability, (2) collaboration, allyship, and trust, and (3) the potential impact of inclusive innovation (II) and design thinking (DT).

Chapter 3 outlines the research methodology, detailing the approach, strategy, and design of the study. It includes a discussion on data collection methods, sampling techniques, and the process of data analysis. This chapter also highlights the study's limitations and addresses ethical considerations.

Chapter 4 presents the findings from the study, organised around key themes that emerged from the data analysis.

Chapter 5 provides a discussion of the findings in relation to the literature reviewed in Chapter 2. It critically engages with the results and discusses their implications.

Chapter 6 concludes the dissertation by summarising the key findings, discussing the study's contributions to the field, and offering suggestions for future research.

The dissertation concludes with references and relevant appendices that support the data and analysis presented in the main body.

1. 9 Conclusion

This chapter has introduced the research focus on improving information accessibility for PWDs in South African restaurants through collaborative DT. The study addresses the gap between policy and practice in disability inclusion by examining how PWDs and nondisabled people can effectively collaborate. By exploring factors that enhance trust, identifying barriers to collaboration, and evaluating DT as an inclusive innovation tool, this research aims to contribute practical insights for multiple stakeholders. The findings will inform approaches to social inclusion within the hospitality industry and broader collaborative innovation processes involving diverse participant groups.

CHAPTER 2: LITERATURE REVIEW

This literature review explores social inclusion, the context of disability, relevant policies, and the lived experiences of PWDs globally and in SA, with case studies from the hospitality industry. As a two-day DT workshop is at the core of this dissertation, its attributes and future research areas are also included.

This integrative literature review will show the interconnected concepts of collaboration and trust as well as the role they play in collaborative efforts like DT. Regarding collaboration, allyship literature indicates a gap in research on the interaction between PWDs and nondisabled people; it also displays the importance of including PWDs in the creation of information about accessibility in an industry where most of its focus is on the physical aspects of including PWDs, as opposed to information hindering accessibility and their social inclusion. Chapter 2 reviews literature in these fields in three overarching categories: Social Inclusion and Views on Disability, The Role of Collaboration, Allyship, and Trust in Disability Inclusion, and Inclusive Innovation and Design Thinking's Potential for Impact.

2.1 Social Inclusion and Views on Disability

In this subsection, the discipline and importance of social inclusion, located against the backdrop of disability, are reviewed. The literature further sketches the various models through which disability is viewed and pays attention to the social model, which is the model through which disability is viewed throughout this study. International policies and how grey literature and legislation direct the South African disability landscape are also discussed.

2.1.1 Social Inclusion

Social inclusion is a multi-faceted concept in which agency and participation are paramount (Gidley et al., 2010; Simplican et al., 2015). Social inclusion occurs when the excluded, disenfranchised, or marginalised are "brought in" (George et al., 2019, p. 2). Simplican et al. (2015) define social inclusion as the linkage between community participation and interpersonal relationships. They frame individual, interpersonal, organisational, community, and socio-political factors into an ecological model of inclusion. Notably, they also explore the purpose of social inclusion from the perspectives of people with intellectual and developmental disabilities, identifying a need for research to promote the social inclusion of PWDs (Simplican et al., 2015).

In turn, Gidley et al. (2010) identify three lenses through which social inclusion can be viewed:

1. A neoliberalist view of social inclusion as access;
2. a social-justice lens that equates social inclusion to participation; and
3. through the lens of human potential, social inclusion as empowerment.

To add to the multi-faceted nature of social inclusion, Reisdorf and Rhinesmith (2020) note that inclusion can also be applied in digitised environments. Barriers towards social inclusion, therefore, do not only surface in a physical environment but is also applicable to digital environments. In their discussion about exclusionary practices in an automated world, Charitsis and Lehtiniemi (2023) cast insight into how data capitalism excludes people based on expectations about their ability. Charitsis and Lehtiniemi (2023) argue that data and algorithmic preferences can be used to discriminate, which in turn could lead to

marginalisation. The authors emphasise the need to develop relationships that cultivate alliances or collaborations to combat societal marginalisation based on disability, class, gender, sexuality, or race, in light of the potentially discriminatory effect of data (Charitsis & Lehtiniemi, 2023).

Disability scholar Susan Wendell (1989) emphasises that there are implications for PWDs when social inclusion is not practised. Despite many people experiencing disability at different stages in their lives, PWDs are often disenfranchised and labelled “the other”. This othering represents a perceived failure of authority and brings forward the possibility of pain, dependency, limitations, and mortality (Wendell, 1989). By including PWDs and their insights into society, Wendell (1989) argues that the relationship between PWDs and their physical bodies becomes less constrained.

According to Darcy et al. (2023), who explored social inclusion in entrepreneurship, social, political, and cultural experiences are also interlinked. Based on their study of 60 entrepreneurs, they showed that the key factor in the success of entrepreneurs with disabilities was the ability to combat mobility issues and utilise entrepreneurship as a means to gain social ties (Darcy et al., 2023). As a result, they call on employers to look beyond the barriers to inclusion, and develop strategies to overcome and mitigate obstacles. While this does not relate to the restaurant industry, it does illustrate the effect targeted social inclusion can have on the success of PWDs in an industry.

Social inclusion is key in promoting the rights, inclusion, and well-being of PWDs, making it possible to be engaged in their communities and to lead fulfilling lives – just some of the benefits of social inclusion highlighted by Barba-Sánchez et al. (2021). For example, increasing accessibility to restaurants through the provision of information about accessible facilities can improve social inclusion in the hospitality industry. Furthermore, they point out that social inclusion promotes personal development, independence, and confidence; creates a

sense of belonging; and is a pathway to professional opportunities, including employment prospects and skills development, which lead to financial autonomy. It also cultivates mental wellness and reduces the risk of social isolation (Mathias et al., 2019), and enables PWDs to contribute to their communities with unique skills and viewpoints (Saran et al., 2023).

In this regard, social networks can also have a positive impact, especially when it involves families and close personal connections (Giesbers et al., 2020), or personal and professional networks (Kuiper et al., 2016). In these cases, PWDs gain access to employment opportunities, skill development, and career training, which in turn leads to the development of self-sufficiency (Ebrahim et al., 2022). Fantinelli et al. (2022) underscore the sense of fulfilment, robust identity, and enablement drawn from active engagement following the inclusion of PWDs in the workplace.

Remillard et al. (2022) note that accessibility policy development and implementation are interrelated and have a notable impact on the social inclusion of PWDs. They highlight the importance of improving transportation services for persons ageing with mobility disability (PAwMD) to create a higher level of social inclusion. Similar to Lindqvist and Lundälv (2012), Remillard et al. (2022) argue that PWDs can participate actively in different parts of life, including employment, community activities, and healthcare access if they gain access to transportation. This mobility could lead to deeper engagement in life situations, which removes barriers hindering social interactions (Bascom & Christensen, 2017).

In sum, existing literature is somewhat aligned in identifying the positive effect of socially including PWDs (Saran et al., 2023), as well as the critical barrier to this inclusion of PWDs in the broader tourism industry, which includes the restaurant industry. (Cloquet et al., 2018). The lack of information about accessibility features impedes PWDs' ability to engage in social activities within the industry entirely (Cloquet et al., 2018). This information is vital for PWDs to overcome environmental and socio-economic obstacles and to participate in the

industry; in fact, it is essential for promoting greater inclusivity and accessibility for all (Cloquet et al., 2018).

2.1.2 Disability Models

McEwan and Butler (2007) problematise a single definition of disability, given the multi-faceted nature of unfamiliar cultural, social, economic, and geographic realities in various parts of the world. The World Health Organisation (2021, p. 10) defines PWDs as individuals "who have long-term physical, mental, intellectual, or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others". It goes further to state that the word "disability" is the "outcome of the interaction between individuals with a health condition (e.g. cerebral palsy, Down syndrome or depression) and personal and environmental factors (e.g. negative attitudes, inaccessible transportation and public buildings, and limited social supports)". This definition reflects how disability as a concept changed since it was originally located within the moral/theological model.

Different models of disability exist, and their contexts often influence how they develop (Retief & Letšosa, 2018). The theological model is a framework that seeks to understand disability within the context of theology in people's understanding of God, humanity, and how communities interacts (Swinton, 2012). While the theological model of disability focusses on the broader religious views of disability, the moral model of disability underscores the moral or ethical behaviour of PWDs and often blames the individual for their disability, attributing it to personal shortcomings (Hamraie, 2015).

The medical model perceives disability as an objective medical condition that requires treatment and rehabilitation (Dirth & Branscombe, 2017). It centres around diagnosing and

rehabilitating an underlying condition and merely regards disability as a medical issue inherent to individual bodies and minds (Hogan, 2019). Moreover, it assigns the responsibility for addressing disability to individual PWDs, and prioritises the treatment and rehabilitation of their conditions (Palmer & Harley, 2012).

The biopsychosocial (BPS) model highlights the interaction of biological, psychological, and social factors in shaping the course and impact of illness and disability. However, Shakespeare et al. (2016) critique it for its excessive emphasis on individual agency as the cause while neglecting the broader socio-economic influences and disabling barriers.

The social model of disability holds the view that society – not a person's body or impairment – is responsible for disabling people (Barnes, 2003; Burchardt, 2004; Mercer, 2002; Oliver, 2013; Shakespeare, 2013). The social model sees disability as a result of societal barriers, while the medical model focuses on impairments and seeks medical intervention. This dissertation focuses on the social model of disability, which emphasises societal barriers as the main contributor to the disablement of individuals (Berghs, 2015; Levitt, 2017; Madlenov, 2020; Thomas, 2004; Tregaskis, 2002).

2.1.3 Disability Policy

Since the 1970s, the disability movement in the United Kingdom – led by British PWDs and their allies – has evolved significantly (Levitt, 2017; McEwan & Butler, 2007; Oliver, 2013). Since then, the disability movement has incorporated a human-rights agenda, with various countries developing laws and legislation that promote the inclusion of PWDs in society (Berghs et al., 2019; European Union, 2022; Federation of Australia, 2021; Mannan et al., 2012; McEwan & Butler, 2007; United Kingdom, 2021; United States of America, 1990).

Criticism of these policies has revolved around its intent not necessarily translating into impact (Schnitzler, 2020; Van der Merwe, 2021).

The Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006) explicitly provides for the rights of PWDs to participate in cultural and leisure activities. For instance, the CRPD requires that restaurants provide accessible facilities for PWDs. Article 30(5) is significant, as it stipulates that state parties must take appropriate measures to enable PWDs to participate on an "equal basis with others in recreational, leisure and sporting activities" (United Nations, 2006, p. 23). Furthermore, article 30(5)(c) mandates that states must take appropriate measures to ensure that PWDs "have access to sporting, recreation and tourism venues" (United Nations, 2006, p. 23), and – in article 30(5)(e) – that PWDs must have access to services from those involved in the organisation of "recreational, tourism, leisure and sporting activities" (United Nations, 2006, p. 23).

The principles of flourishing, dignity, and a good life introduce a moral lens into disability studies. Wise (2018) underscores the significance of establishing a world where individuals have the opportunity to live well and thrive, drawing insights from the capabilities approach. He identifies ten capabilities that contribute to flourishing, some of which are bodily health, bodily integrity, senses, imagination, as well as thought, emotions, practical reason, affiliation, play, and control over one's environment, highlighting the importance of choice and autonomy when applying the capabilities approach from a moral point of view (Wise, 2018).

Policies and human-rights treaties solidify the importance of the inclusion of PWDs as a human right (Berghs et al., 2019; Mannan et al., 2012). Internationally, the CRPD (United Nations, 2006) lays the foundation for numerous other policies. Most recently, the Disability Inclusion Strategy (DIS) (United Nations, 2019) exemplifies how policy has been written to enforce inclusion to permeate the vast organisational structure of the United Nations (UN).

Notably, the UN's (2015) Sustainable Development Goals also align with the overall CRPD policy. According to Goal 10.2 (United Nations, 2015, p. 21), states must "empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other statuses" by 2030.

Within the South African context, the white paper on the country's Integrated National Disability Strategy (Republic of South Africa, 1997) was based on the premise of the CRPD, and the South African government's commitment to the UN treaty was officiated after becoming one of its first signatories (Statistics South Africa, 2011).

It is important to note that disability policy and organisational frameworks cannot be isolated from each other; instead, they are interwoven on many levels in society, including professional and social. In SA, this intersectionality is noticeable in the inclusion of disability in an array of different policies and laws, which – with reference to the UN – is in line with international practice. Similar to the aim of the UN's DIS (United Nations, 2019) to create a more holistic approach to remedy the cross-sectional nature of the marginalisation of PWDs, the South African government has included PWDs in a white paper on Special Needs Education (Department of Education, 2001); the Employment Equity Act [55] (Republic of South Africa, 1998a); the Skills Development Act [97] (Republic of South Africa, 1998b), and the Broad-Based Black Economic Empowerment Act [53] (Republic of South Africa, 2003). Policies like these highlight the far-reaching and multi-faceted nature of disability inclusion, as they span across industries, are interlaced with efforts from government to international mediatory bodies, and determine employment and other regulations and guidelines across SA (Hussein El Kout et al., 2022; Ngcobo & Gumede, 2022; Schnitzler, 2020).

Furthermore, it is significant that PWDs are included in the definition of designated groups[1] in the Employment Equity Act [55] – which requires intentional inclusion in society – as this definition is also used in other acts (Republic of South Africa, 1998a). An example can be found in section 3.1.c of the National Youth Development Amendment Bill (Republic of South Africa, 2022, p. 3):

> (1) The objects of the Agency are to —
>
> […]
>
> *(c)* promote the interests of the youth, particularly youth who fall within the designated groups contemplated in the Employment Equity Act, 1998 (Act No. 55 of 1998);

Moreover, considering that designated groups are given preference in South Africa's Preferential Procurement Policy Framework Act (Republic of South Africa, 2000), this ultimately means that the state's buying power can positively impact PWDs, which results in the economic inclusion of PWDs (Republic of South Africa, 2000).

Social environments, such as recreational spaces and activities, are influenced by governmental and legislative policies (Cloquet et al., 2018). Policy obligates accessibility requirements for tourism facilities, shapes marketing practices, provides financial support, regulates tourism development, and establishes quality standards. As a result, these policies are essential to foster accessibility, inclusivity, and the overall experience of tourists within the industry, ultimately impacting the social inclusion of diverse groups within the sector (Cloquet et al., 2018). In a study on the impact of disability labels on relationship building at work,

[1] Designated groups in the act include black people, women, and PWDs (Republic of South Africa, 1998a).

which is also a social environment, Brzykcy and Boehm (2022) examine the impact of labelling PWDs as “severely disabled”, and stress the importance of cultivating inclusive environments that address the needs and capabilities of all, including PWDs. Similarly, Grue (2016) underscores the often-unintended adverse effects of stigma forming when disability policies categorise people. When policy labelling leads to stigma, it deepens the idea that PWDs have little scope for cultivating relationships, negatively impacting experiences in social environments, as it could lead to exclusion, discrimination, and marginalisation (Char & Bogart, 2022).

Brzykcy and Boehm (2022) argue that instead of focussing on categorisation, disability policies should prioritise accommodations and support for PWDs, which could enable them to actively engage in the social contexts. On the other hand, Grue (2016) notes the potential backlash that disability legislation could lead to, notably in terms of arguments over the cost of adaptations and the enforcement of regulatory or financial requirements on state agencies and private companies, which often frames the issue as a burden on the majority for the sake of the few. Moreover, researchers need to comprehensively explore the influence of disability policies on the experiences of PWDs, as the findings and implications have global relevance where disability inclusion in society is concerned (Naukenova, 2015). It is also evident that considerations for PWDs in policies and guiding legislation need to be improved globally. As discussed by Kosanic et al. (2022), insufficient emphasis has been placed on the rights of PWDs, highlighting two primary concerns:

1. Disability rights are neglected: overlooking the specific challenges related to the rights of PWDs, leading to a lack of consideration while devising measures for adaptation and mitigation.

2. Recognition of intersectionality is lacking: the examination and evaluation of data and information and its impact on disabled populations, disregards the interconnected nature of social categorisations and subsequently do not acknowledge the increased vulnerabilities of PWDs, who are part of other marginalised groups.

Van Melik and Althuizen (2022) discuss the importance of inclusive play for disabled children on Dutch playgrounds, bringing the significance of adequate policy inclusion to the fore. Gaining input from PWDs in policy-making is crucial to guarantee that their needs and stances are considered (Vanderschuren & Nnene, 2021). Promoting inclusivity in recreational spaces through policies can ensure accessibility for all, irrespective of abilities, while including and collaborating with PWDs in policy-making can enhance awareness and understanding as well as mitigate biases against PWDs (Van Melik & Althuizen, 2022).

In summary, by being inclusive while developing policies, equity and social inclusion are improved across the board (Van Melik & Althuizen, 2022). Policy development must be scrutinised in a movement towards greater social inclusion (Bigby & Wiesel, 2011; Graham, 2020). Vikström et al. (2023) unmask continual trends of disability-related disenfranchisement while forming collaborative efforts, highlighting challenges experienced by PWDs. The need for policy interventions to bolster social capital for PWDs and tackle historical and ongoing challenges associated with disability inequities in partnerships is evident, according to Vikström et al. (2023). Five policy-related findings were identified:

1. Policies must pave the way for PWDs to access support services, leading to their entire social engagement on equal terms with others.

2. Policies stressing inclusivity and diversity can cultivate environments that cater to the needs of PWDs, challenging societal attitudes and barriers that are blockers against full societal engagement.
3. Intersectional approaches could help policy-makers to address issues faced by people with various types of disabilities.
4. Policy and advocacy initiatives should embrace long-term perspectives, considering historical patterns and persisting challenges while accomplishing sustainable change.
5. Policies should create systems enabling the monitoring and assessment to determine the impact of interventions, guaranteeing that collaborative efforts are effective and responsive to the needs of the PWD community.

Regardless of continual critique (Reeves et al., 2023), policy remains critical to improving the inclusion of PWDs and enables greater access to support services, promoting inclusivity and diversity, acknowledging intersectionality, embracing long-term perspectives, and setting up accountability and assessment methods that are essential in addressing disability disenfranchisement or discriminations in collaborative efforts and societal inclusion at large (Vanderschuren & Nnene, 2021).

2.2 The Role of Collaboration, Allyship, and Trust in Disability Inclusion

Seeking to understand the dynamic interplay between collaboration, allyship, and trust to review the multi-faceted nature of disability inclusion in the restaurant and broader tourism industry, literature on collaboration, allyship, and trust will be addressed next. In this section, the literature review captures how stakeholders from diverse backgrounds – and in particular,

PWDs and nondisabled people – come together to explore barriers to collaboration and how to work towards more inclusive practices (Bennett & Rosner, 2019; Bigby & Wiesel, 2011; Hussein El Kout et al., 2022). Additionally, as studied by Bourke (2020) and Radke et al. (2020), allyship practices shed light on the motivations behind support for disenfranchised groups. Building trust within these collaborative efforts is equally essential, influencing project success and creating environments conducive to inclusive participation in these collaborative initiatives (Bond-Barnard et al., 2018).

2.2.1 Collaboration

Although international frameworks and policies are progressive, the literature suggests a need for more initiatives by social activists and innovators who attempt to bridge divides between PWDs and nondisabled people in practice (Bigby & Wiesel, 2011; Hussein El Kout et al., 2022). Moreover, the lack of policy implementation and legislative frameworks could lead to an even more significant disconnect between PWDs and those without (Bennett & Rosner, 2019). When PWDs are part of a collaborative effort from the initial design phase of practical innovations related to disability, PWDs' needs are incorporated from the beginning instead of merely complying or adding accessibility as an afterthought (Ostroff, 2011). Physical and mental impairments are not the only factors creating inclusion barriers in society – a tension between social integration and participation of PWDs contributes as well (Kaya et al., 2021). It is, arguably, a social responsibility to remove accessibility barriers like communication hurdles in coffee shops and restaurants for people with communication disabilities (Carroll et al., 2018). This emphasises how imperative it is to co-design and execute collaborative initiatives to bring about meaningful change between hospitality staff and PWDs within the restaurant industry (Carroll et al., 2018).

Barbara Gray (in Nyanjom et al., 2018) describes collaboration as the constructive exploration of differences and the search for possible solutions. In the restaurant industry, collaboration between management, staff, and PWDs can lead to the development of accessible menus and dining areas. One of the key factors contributing to better inclusion in the tourism industry, which includes restaurants and the broader hospitality industry (De Fátima Brilhante & Rocha, 2022), is stakeholder management, which could contribute towards more accessible tourism. Moreover, how these stakeholders collaborate to achieve accessible tourism has not been examined (Nyanjom et al., 2018).

In highlighting accessibility within the tourism sector, Michopoulou et al. (2015) also declare that collaboration is vital for progress, underscoring the need for a collaborative approach that acknowledges the synergies among diverse paradigms. Michopoulou et al. (2015) further note that the effectiveness and extent of collaborations among stakeholders will be essential in shaping diverse future scenarios. These futures range from a harmonious collaborative future with shared benefits for all involved parties – to a dismal outlook where stakeholders operate more autonomously, due to perceived incompatible interests.

Following the start of the COVID-19 pandemic (in 2019/2020) and the social disruption it caused, Bricout et al. (2021) suggest that creating more inclusive communities through collaborative and participatory practices requires the pairing of technological advancements that utilise inclusive, innovative technologies and design approaches for community change for PWDs through synergy. Physical or political constraints do not bind these transformations, ideally adapting to local interests while potentially addressing broader challenges in larger contexts. Moreover, the authors outline three synergistic outcomes of smarter community sustainability – (1) engagement, (2) evaluation, and (3) leadership – from inclusive smart technologies, design approaches, and innovative community processes.

Participatory design with PWDs shows the value of creativity in effective collaboration in rural Cambodia, which relies heavily on farming (Drain et al., 2018). PWDs need effective assistive technologies and social empowerment to enhance access to the country's traditional livelihood. This study explored the use of participatory design in collaboration with a rural community of PWDs to identify challenges and design solutions. The importance of "design with" as opposed to "design by" is also emphasised by Wolf-Meyer (2023), who explores these notions within the context of human-centred design and disability. The "design with" approach entails gathering input from consumers, in this case, PWDs, at the outset of development, drawing on the everyday experiences of individuals to inform design practices. Conversely, the "design by" approach involves consulting experts and leveraging their knowledge as the foundation for design practices. These concepts are pivotal in comprehending how human-centred design can cater to lived needs and desires.

Drain et al. (2018) also mention the trade-off between disability inclusion and making-style activities, like prototyping – which is an essential practice in DT (Pande & Vijayakumar Bharathi, 2020) – or creating models, where "more able" (p. 695) participants often become the dominant participants, which could lead to the exclusion of PWDs who have more severe impairments (Drain et al., 2018). Although there are many challenges in participatory design in developing countries, the study demonstrates the value of hands-on activities and a well-defined design process in engaging communities collaboratively.

In Boellstorff's study (2019) on digital entrepreneurialism, PWDs move towards creating an improved self and community in their approaches. In their approach, this author reposition the concept of collaboration by prioritising contribution, support, and nurturing, ultimately resulting in an enhanced sense of self and community. Additionally, ableist perceptions are counteracted by what is seen as effective or efficient outputs. In sum, in Second

Life – the virtual world at the core of his study – people see themselves as creative contributors, not just risk-takers, underscoring their abilities and initiative (Boellstorff, 2019).

The power of collaborative efforts to bridge gaps and solve matters of accessibility between PWDs and nondisabled people is notable, recognising the value of co-produced and empowering work as a step towards greater inclusivity (Stevenson, 2010). In turn, Pickard (2022) explores the matter of collaboration between PWDs and nondisabled people within the context of university education, where disability biases are prevalent, also in ways of communication. Pickard (2022) puts standpoint epistemology – gaining knowledge and understanding through lived experiences (Jones, 2020) – forward as a different way of collaboratively generating knowledge and skills. In Pickard's (2022) research, people with learning disabilities are not often employed or seen as experts in academia, even though they have invaluable insights and perspectives to add to the discourse. Moreover, Pickard (2022) highlights a case study in which students and actors living with disabilities were included in university students' lectures on diversity and inclusion. This approach instilled a notable amount of knowledge in the nondisabled students in a way that would not have been possible among exclusively nondisabled people. It pointed out the importance of moving away from learning about disability and instead learning with and from PWDs – or, in other words, first-hand learning, which Jones (2020) champions in a study relating to transgender identity issues.

Fantinelli et al. (2022) draw attention to the importance of collaboration and active participation in empowering PWDs. Collaboration among various stakeholders, such as employers, policy-makers, and PWDs, is essential to create inclusive environments in the broader tourism industry, bettering accessibility issues (Fantinelli et al., 2022; Michopoulou, 2015). They recommend creating inclusive environments for PWDs by paying attention to individual differences and needs as well as promoting widespread cultural change. Efforts

towards a more inclusive environment can involve implementing practices and policies that promote accessibility, communication, and training opportunities, among other things.

There is a lack of industry-specific literature on collaboration between PWDs and nondisabled people in restaurants or the broader tourism and hospitality industries, so this review draws on notable views in management literature. One such study, by D'Souza and Kuntz (2023), analyses the influence of reasonable accommodation appraisals on hiring managers' attitudes towards PWDs and brings the significance of collaboration between managers and PWDs in these accommodations – planning, development, and implementation – to the fore. According to the authors, collaboration boosts understanding of the needs and requirements of PWDs, which is why they advocate for the inclusion of PWDs when reasonable accommodations in the workplace are set in place. Future research possibilities include exploring reasonable accommodations for PWDs in a different environment and discovering effective frameworks for collaborative efforts to implement such accommodations (D'Souza & Kuntz, 2023).

2.2.2 Allyship

Bourke (2020) refers to an ally as someone from a dominant group that labels themselves an ally. Allyship involves nondisabled individuals supporting PWDs in efforts to improve access and inclusion in restaurants. Although the importance and impact of allyship are not outright dismissed, Bourke (2020) argues that the "ally" label can often be incorrectly applied, in which case it loses much of its significance. However, he states what allyship should be, where it fails, and how its relevance can be restored. Expressing an ally identity has become an essential part of current allyship, as it is often devoid of action, which is why Bourke (2020) concludes that allies need to recognise the constraints of their position within a social-justice context. In

effect, he echoes Freire's (2000) argument that allyship has to be actioned in conjunction with the oppressed to recognise the constraints of their position.

Radke et al. (2020) suggest four motivations for advocating and participating in social change:

1. Outgroup-focussed motivations, with an unfeigned interest to assist the disenfranchised group;
2. ingroup-focussed motivations, which assist on condition that the advantaged group maintains its status;
3. personal motivations, which entail a personal benefit to partaking in a helping act; and
4. morality motivations, where motivation is born from moral conviction.

To build on this theory, Radke et al. (2020, p. 308) also argue "that the tensions that sometimes arise between disadvantaged (sic) and advantaged group members who participate in the political movement are in part due to the motivations advantaged group members have for taking action for the disadvantaged (sic) group". However, the literature is scant in addressing the responses of PWDs in situations and environments where nondisabled people collaborate to promote more inclusive recreational experiences for PWDs.

Within the context of disability arts, Hadley (2020) argues that there is a need to develop a theory around various approaches to allyship, particularly through different stakeholders' lenses in disability practice, disability arts, and the broader arts field. The author identifies ways allyship practices manifest in the art world, and shows the value of allies to transform barriers that lead to the exclusion of disabled artists. The relationship between the

ally and disabled person can, however, be challenging on both an individual and organisational level (Hadley, 2020).

Hadley et al. (2022b) argue that respect, cultural safety, and trust are good indicators of sound allyship within the broader creative industry. The authors further claim it is not adequate to establish cultural safety and education for potential arts and media workers – only first-hand experience will show which long-term allies engage with one another in a deep-rooted manner. A question from this school of thought – fertile ground for future research – is how to support potential allies to gain meaningful experience in the disability world without hindering disabled artists, media workers, and their projects.

Forber-Pratt et al. (2019) explore the importance of rehabilitation practitioners within the context of allyship. The authors put forward that the act of rehabilitation supports the disability community as allies. In their conceptual paper, they describe allyship actions by various practitioners and list eight ways of making allyship visible to the disabled community:

1. Understand intersectionality, referring to the interlinkage between power and identities;
2. ask and respect terminology;
3. embrace principles of universal design;
4. act as an ally, which means that an ally should address individual needs when a situation demands action;
5. recognise inspiration porn[2] and the over-sensationalising of PWDs;
6. be aware of current disability-rights issues facing the community;

[2] Inspiration porn portrays disability as a challenge and a virtue, depicting overcoming it through physical mastery. This condescending portrayal is especially seen in social-media images, and is aimed at evoking pity (Forber-Pratt et al., 2019).

7. check internal disability-related biases; and
8. embrace cross-cultural disability solidarity.

Critically, disability allyship demands self-critique and commands both social interaction and a change in perceptions (Forber-Pratt et al., 2019).

Aside from the complexity of allyship in literature, existing research also highlights how strengthening this human relationship could be a positive move towards greater accessibility. Accessibility research seeks to reduce caregiving in relationships between PWDs and nondisabled people. However, this restricted view can neglect the positive aspects and traditions of self-directed personal assistance services, as highlighted by Hofmann et al. (2020). While technology can assist with certain caregiving tasks, accessibility research can also enhance activities that foster pride in caregivers. The authors suggest expanding research to promote disability positivity and enhance allyship, which could result in greater access.

2.2.3 Trust

Trust is key in collaboration and how users interact with information systems. Humayun and Jhanjhi (2019) identify three constructs that influence the level of trust in global software development:

1. Propensity to trust, referring to the preparedness to trust;
2. perceived trustworthiness – the expectation that the collaborators will participate in the way they have committed to; and
3. cooperative behaviours, where a team manages complex situations by sharing knowledge and experience and aiding under challenging circumstances.

Within the information and communication technology field, Ukpabi and Karjaluoto (2018) state that trust has the most significant impact on attitudes, but there are limited qualitative studies relating to trust in Africa in this domain.

The literature also clearly shows that collaboration and trust are intricately linked. In management literature, Bond-Barnard et al. (2018) find that project management is more likely to have a higher success rate if better collaboration occurs, positively affecting team members' trust. A project team's expectations of one another, knowledge exchange between team members, and familiarity with the surroundings contribute to trust in a team (Bond-Barnard et al., 2018).

The potential of trust and collaboration has also been explored in the disability-arts arena. Hadley et al. (2022a) explored the role of quick trust in their research on The Last Avant Garde Project[3], illustrating the efficacy of quick trust when trusting partnerships form rapidly between PWDs and nondisabled allies. In this environment, identifying three components of "physical" access was considered necessary to promote inclusivity: (1) ideological, (2) logistical, and (3) methodological, with trust being leveraged in the latter component. Their findings suggest that although quick-trust mechanisms suit dominant culture artists, marginalised artists find trust through relational innovation and so-called slow time – the engendering of trust through deep dialogues, the acknowledgement of vulnerability, and the fostering of relations between PWDs and collaborators within a defined space and time.

In the context of accessibility, trust between PWDs and nondisabled collaborators is essential for creating inclusive environments in restaurants.

[3] A series of workshops with disabled artists across the country, which formed part of the Australian Research Council-funded Disability in the Performing Arts in Australia project, known as "The Last Avant Garde Project" (Hadley et al., 2022a).

2.3 Inclusive Innovation and Design Thinking's Potential for Impact

This section explores how II and DT intersect to advance II practices for PWDs. II, focussed on empowering marginalised communities, offers a pathway for transformative social change (Avelino et al., 2019; Unger, 2015). II can be applied in the restaurant industry by developing innovative tools such as accessible reservation systems. Complementarily to II, DT provides a human-centred framework for creating solutions aligned with users' needs (Liedtka, 2015). Reviewing relevant literature, this section seeks to highlight the collaborative potential of II and DT in fostering accessibility and inclusivity, particularly within disability studies (Hofmann et al., 2020).

2.3.1 Inclusive Innovation

II has human elevation and agency at its core (Unger, 2015). According to Sengupta (2016, p. 13), technologies and II models in developing countries "must have an enabling effect on those subordinated communities raising their self-esteem and dignity to claim their entitlements. Hence, for innovation to be inclusive, it must include three 'Es': enabling, empowering and entitling". Sengupta (2016) also argues that II requires participation and, therefore, fundamentally demands collaboration.

For innovation to be classified as social innovation, the issue must be unsolvable by established practices and institutions, such as governance and the business sector (Unger, 2015). Furthermore, Unger (2015, p. 234) says social innovation is a "creation of a new way of acting and cooperating in some part of society". To establish transformative social innovation, Avelino et al. (2019, p. 196) suggest four foundational concepts to critically assess social innovation's transformative nature. These concepts are labelled the so-called "shades of

change and innovation": (1) social innovation, (2) system innovation, (3) game-changers, and (4) narratives of change, which all co-evolve, even though research into the specific interactions of these "shades" could be explored more broadly. Moreover, George et al. (2012, p. 661) define II as "innovation that benefits the disenfranchised and that it is a process as well as a performance outcome".

Within disability studies, II also relates to harnessing diversity and complexity. Researchers dissecting possibilities in this arena look at the intersection between disability studies and accessibility research, like Hofmann et al. (2020), who define accessibility research as a field where technology development regarding impairment occurs, while disability studies focus on anti-ableism advocacy and better understanding of disability. As a result of their research, they identify three opportunities for furthering inclusion:

1. Including a diverse population of interests when recruiting, of which a prime example is interacting with activists or culturally disabled communities to see disability from a different perspective;
2. harnessing disability-positive allyship, as the authors' experiences show, by deepening these relationships. Research in this domain could boost efforts towards accessibility and, ultimately, enable PWDs and allies to cultivate identities collaboratively; and
3. researchers forming strong relationships with disability-studies scholars.

The Hofmann et al. (2020) study shows how technology that welcomes diverse disability identities has the potential to explore new design possibilities and uplift individuals, which allows for nuanced needs.

Including industry experts on PWDs and their unique insights on accessibility matters is promising and could be transformative in technology and innovation (Taylor et al., 2020; Wu, 2023). PWDs are often discerned as granted or provided the chance to be employed instead of being the providers of useful and invaluable skills or knowledge (Graham, 2020).

Wu (2023) notes the capacity of disability expertise in redefining techno-capitalism conditions. They coined the concept of "resource-hacking" and described it as "disability-informed, pragmatic skills that optimise resources in precarious political economies for community betterment" (Wu, 2023, p. 12). The study, focussing on the everyday contributions PWDs in China make towards developing artificial intelligence systems in the country, suggests how their expertise as PWDs can provide a technological edge (Wu, 2023). The work under examination in the study entails making sure everyone interprets ambiguous data rules, which are hard to capture in smart-home systems. This requires a skilled team with coordinated thinking and trained judgment. A team of disabled workers – excluded from the conventional job market as a result of structural bias against PWDs and drawn in for their expert disability perspectives – redefines space, time, and political economy to accommodate non-normative people. Wu (2023) spotlights ENABLE, a disability-led organisation that champions talented PWDs in the information technology industry, and illustrates how supportive practices transcend the exclusionary nature of mainstream environments (Raj, 2018; Wu, 2023). Ultimately, PWDs' success as information technology architects stands in contrast to popularly referred to controversial tropes such as "victims" and "inspiration", which not only highlights the impact these capabilities have on innovation but also how it transcends human perception (Wu, 2023).

Disabilities are often equated with being unsuited or not compatible with employment, and frequently lead to alternate worlds in virtual spaces (Boellstorff, 2019). In a multi-year ethnographic study, Boellstorff (2019) discovered entrepreneurialism in the evolving

landscape of digital labour, and focusses on the junction between creativity, risk, and inclusion, as he explores disability experiences in the online environment of Second Life (as mentioned, a virtual world). Since its inception in 2003, high levels of disability participation took place, and, in many cases, traditional views on digital labour were refuted, as small profits or even losses were commonplace in this digital community. Boellstorff (2019) highlights how easily disability gets pigeonholed as either a catastrophe or inspiration. By highlighting the lifeworlds of entrepreneurs who are also PWDs, the author shows how these digital economies are already impacting societies, showing a way to redefine disability as a driver towards social change and a more socially inclusive society for PWDs.

In Second Life, the concept of being an entrepreneur is reshaped to spotlight the role of contribution and creativity in being an entrepreneur, countering more traditional drivers, including initiative and risk (Boellstorff, 2019). The virtual world breaks down blockers like financial resources and access. PWDs here implicitly resist the transformation of their selfhood under neoliberalism, where a working self is not a worker earning a wage but rather an enterprise with the "ability" to provide services – digital technology transforms the dynamics of selfhood, work, and value. Yet, these changes are culturally specific and tied to forms of inequality.

Furthermore, in a critical scoping review of disability employment research, Bailey et al. (2022) explore how to propel social innovation to create more inclusive employment opportunities in the construction industry. In this case, Bailey et al. (2022) argue that social innovation promotes more accessible routes to employment for marginalised groups. The importance of inclusive recruitment strategies, partnering with relevant organisations, and taking steps to address biases during the recruitment process, is highlighted (Bailey et al., 2022). Emphasis is put on the need for II and tailoring processes to accommodate the needs of PWD (Bailey et al., 2022; Barba-Sánchez et al., 2021), as well as developing accessible

technologies and tools for PWDs that will positively affect PWDs and bolster their inclusion in society (Bailey et al., 2022).

2.3.2 Design Thinking

DT is an innovation methodology that facilitates an explorative way to solve practical problems. For instance, in the restaurant industry, DT can be used to redesign dining spaces to accommodate PWDs, such as adding ramps and accessible restrooms. Applied in research, DT creates a platform for a rich exploration of human interaction with under-utilised potential (Liedtka, 2015), mainly when a case study is involved (Pande & Vijayakumar Bharathi, 2020; Sutton & Hoyt, 2016).

This section considers the DT concept and its attributes, as well as behaviours and skills related to the innovation framework, to deepen the understanding of fostering inclusive practices in DT, particularly between PWDs and those without a disability.

2.3.2.1 Design Thinking as an Innovation Approach. DT is a framework to innovate and produce valuable solutions in various divergent industries, including business, law, education, and the medical sector (Pande & Vijayakumar Bharathi, 2020). The DT innovation model can produce solutions that address accessibility challenges and improve understanding of policies and procedures related to accessibility (Heron et al., 2022), such as how to present information more effectively to PWDs.

DT has transcended from being a buzzword to an essential tool in management and innovation across industries (Micheli et al., 2019). Greeson et al. (2021) describe DT as a framework emphasising deep empathy for end-user needs. Tim Brown, chair of the internationally-renowned design company IDEO, defines DT as “a human-centred approach to

innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success" (*Human-Centred Innovation*, n.d., para. 1). The Interaction Design Foundation (2016, para. 1), which draws their approach from the Hasso Plattner d-school's five-step approach, considers DT to be:

> […] a non-linear, iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Involving five phases – Empathise, Define, Ideate, Prototype and Test – it is most useful to tackle ill-defined or unknown problems.

In addition to the d-school's five steps, some of the other well-known models of the DT process include Brown's original model with three stages; Plattner and Meinel's model with six stages; Liedtka and Ogilvi's model with four stages; and Ambrose and Harris's model, which consists of seven stages – all highlighting the flexible nature of the process (Waidelich et al., 2018). Although the specific number of steps or phases may differ, the general process typically encompasses the following stages, according to Tschimmel (2012):

1. Empathise: Understanding the user's needs, wants, and pain points through empathy and active listening to gain insights into their perspective.
2. Define: Synthesise insights from the empathise stage and subsequently define the problem or challenge that needs to be addressed.
3. Ideate: Generating many ideas and possible solutions to the now well-defined problem, fostering free thinking and creativity, often using brainstorming and other ideation techniques

4. Prototype: Select and develop the most promising ideas from the ideate stage into low-fidelity prototypes which are used to gather feedback and iterate on designs.
5. Test: Testing the prototypes with users to gather feedback and refine the designs, ensuring that the final product or service meets the user's needs and preferences.

Following a review of 35 DT models, two constant components essential to the process in its various iterations were identified: ideation/ideate and prototype/prototyping (Waidelich et al., 2018). Flexibility with regard to the DT steps could create inclusive, responsive, and humanising learning environments (Thakurta & Smith, 2022). Ultimately, the process revolves around the user's needs and experiences (Harden & Moore, 2019). Although the specific steps may vary, the DT process is typically iterative and non-linear, with each stage informing and influencing the others (Tschimmel, 2012). Harden and Moore (2019) stress the importance of involving users in the DT process to deepen inclusivity. Moreover, Harden and Moore's (2019) participatory design – which actively engages PWDs and nondisabled users in a collaborative way – has been proven to improve inclusivity and accessibility.

2.3.2.2 Design Attributes, Behaviours, and Skills. Micheli et al. (2019) identified DT's principal attributes as the following: creativity and innovation; user-centredness and involvement; problem-solving; iteration and experimentation; interdisciplinary collaboration; ability to visualise; a "gestalt" view, which refers to a holistic view of the experience of a collective of people; abductive reasoning; tolerance of ambiguity and failure; and a blend of analysis and intuition. Their study (2019) further questions whether DT affects organisational performance, team and individual outcomes, and whether organisational, team, and individual characteristics impact the relationship between DT and performance.

Tschimmel (2012) notes the value of the critical traits of DT but does not elaborate on the value of these characteristics. As DT encompasses abductive and inventive thinking, it enables novel solutions by exploring new perspectives and future possibilities (Tschimmel, 2012). It also embraces ambiguity and uncertainty, fostering exploration and experimentation without the pressure for immediate, definitive answers (Lee, 2021). Furthermore, DT underlines empathy and a human-centric approach, leading to solutions that deeply resonate with users' needs and aspirations (Carroll et al., 2010). Additionally, DT prioritises collaboration and co-creation, with designers working closely with colleagues, stakeholders, and end users to view them as partners in the creative process (Bresciani, 2019). This collaborative innovation approach enhances the effectiveness of innovation efforts and leads to co-created solutions (Sutton & Hoyt, 2016). By leveraging visual and prototyping tools, DT facilitates the visualisation and iteration of ideas (Hokanson & Kenny, 2020). These characteristics foster a culture of innovation that values creativity, user-centricity, collaboration, and iterative problem-solving, ultimately leading to the development of products and services that better meet user needs and drive competitive advantage through differentiation and innovation (Lee, 2021).

Shinohara et al. (2016) explored how student designers cultivate DT in an assignment that challenged them to design for PWDs and those without. Two implications drawn from their findings were that PWDs should be included alongside the nondisabled, and functional and nonfunctional aspects of the design must be considered. Significantly, the study highlights the perceptions of students and the belief that it was not their duty to design for PWDs. What was evident were their biases, how students perceived themselves as "normal", and a barrier to the design of accessibility-related features, as they distinguished clearly between differing needs. The authors also reported that these distinct needs might have fuelled ableist perspectives but not necessarily a sense of superiority. However, of importance was the

consideration of both parties in designing technology, as users were pivotal to the product's accessibility. Involving both the voice of PWDs and the nondisabled is necessary for optimal, accessible, and inclusive design, and designers should hone these insights throughout the design process (Shinohara et al., 2016).

An element of agency is highlighted as a two-way stream when PWDs and nondisabled people are included. Shinohara et al. (2016) accentuates that by incorporating and convincing the students that accessibility is fundamentally part of the task, agency was cultivated in two related but fundamentally different ways: (1) disabled users' input had an equal stake in the design outcomes, and (2) skilled designers were compelled to incorporate the needs of both PWDs and people without disabilities.

Concerns about DT and its potential limitations are an oversimplification of multi-faceted problems, an over-reliance on empathy at the expense of other valuable perspectives, and a need for more emphasis on implementation and execution (Beckman & Barry, 2007). Critics also highlight concerns about the "making" paradigm in DT, which mainly focuses on creating artefacts and products, thereby limiting its capacity to address broader social issues (Lee, 2021).

In light of some of this criticism, the complexity of empathy is examined by Bennett and Rosner (2019), who reflect on what is often called the first phase of the human-centred design process. Within human-computer interaction, empathy is problematised and interrogated as a method of bringing designers closer to their core users, and it ultimately becomes an unintended barrier to understanding their users. For example, when critiquing actions such as simulating a disability, designers are requested to emulate being blind by blindfolding themselves and then considering their experiences instead of engaging with PWDs. However, to better delve into core human needs, Beckman and Barry (2007) emphasise the significance of observation to comprehend user behaviour, contextual factors, and

underlying interests and concerns to meaningfully reframe problems and devise innovative solutions rooted in a deep understanding of user behaviour and contextual nuances.

Bennett and Rosner (2019) also highlight the significance of studying disability in the context of empathy in human-computer interaction, the unintended consequences of certain empathy activities, and the need to shift the understanding of empathy in design towards shared experiences and historical context. The authors critique design thinkers with a sense of superiority and their assumption that they are able to innovate without experience or understanding.

Jaskyte and Liedtka (2022) demonstrate the effectiveness of DT in addressing creative challenges, particularly within nonprofit settings. Their study evaluates DT exercises among diverse practitioners, revealing promising outcomes for individuals, teams, organisations, and broader systems. The research identifies five vital intermediate outcomes of DT practices: (1) improved implementation, (2) individual psychological benefits, (3) enhanced network capability and resources, (4) higher solution quality, and (5) trust-building. These outcomes highlight the extensive impact of DT, ranging from solution quality to psychological well-being, organisational capacity, and stakeholder trust.

Carroll et al. (2010) underscore the importance of interdisciplinary collaboration and social interaction, and inclusion in design activities alongside visualisation, prototyping, and user involvement. Furthermore, Jaskyte and Liedtka (2022) highlight five crucial DT practices for fostering trust, including (1) forming diverse teams, (2) active listening, (3) idea generation, (4) feedback solicitation, and (5) real-world experiments.

Studies by Harden and Moore (2019) and Hokanson and Kenny (2020) shed light on critical aspects of DT and its implications. Harden and Moore (2019) emphasise the importance of customising DT activities for students with learning disabilities, highlighting the role of diverse interactions and facilitators in enhancing the effectiveness of such activities. They

underscore how DT equips these students for more complex challenges and enables them to collaborate. Similarly, Hokanson and Kenny (2020) note that creativity and criticism are pivotal in the DT process, highlighting how criticism fosters learning and problem-solving by encouraging constructive feedback and exploring alternative solutions. However, they acknowledge the mixed results of applying DT in various domains, suggesting further research to understand its effectiveness in different contexts and identifying contributing factors to its success or failure.

2.4 Conclusion

In summary, this literature review comprehensively explored the relationship between social inclusion and disability perspectives. This review highlights how social inclusion, collaboration, trust, and inclusive innovation can be leveraged to improve accessibility in restaurants. From understanding social inclusion and evolving disability models to the transformative impact of disability policies, the literature highlights a dynamic interplay shaping societal structures, perceptions and PWDs' lived experiences (Berghs et al., 2019; Darcy et al., 2023; McEwan & Butler, 2007). The literature suggests the importance of inclusive policy-making, intersectional and diverse perspectives, and proactive measures to address continual challenges and foster genuine inclusion of PWDs (Reeves et al., 2023; Van Melik & Althuizen, 2022).

Furthermore, it is evident that collaboration, allyship, and trust are pivotal in advancing the social inclusion of PWDs within the restaurant and broader hospitality industries. Collaborative efforts enable stakeholders to address systemic barriers and integrate diverse perspectives (Bigby & Wiesel, 2011; Hussein El Kout et al. 2022). As defined by Bourke (2020), allyship necessitates genuine action and recognition of privilege to effect meaningful

change. Trust, underscored by Bond-Barnard et al. (2018), underpins successful collaborations, fostering an environment conducive to inclusive collaborative efforts. These elements emphasise the necessity of concerted collaboration and inclusive practices to foster and encourage accessibility and social inclusion.

The literature finally reveals the transformative potential of II and DT in promoting inclusive practices, especially for PWDs. II, characterised by enabling, empowering, and entitling disenfranchised communities, offers a participatory approach to addressing systemic barriers (Sengupta, 2016; Unger, 2015). DT highlights the importance of empathy, collaboration, and iteration based on continual feedback, and provides a human-centred framework to co-create solutions with end users (Liedtka, 2015; Tschimmel, 2012). Integrating PWDs as experts – both in capabilities and perspectives – in innovation processes can redefine disability norms and foster inclusive environments (Hofmann et al., 2020; Wu, 2023).

CHAPTER 3: RESEARCH METHODOLOGY

This chapter provides a comprehensive overview of this study's research approach, design, and data-collection methods. The chosen research approach and strategy are outlined, focussing on the rationale behind employing an inductive approach and qualitative strategy to explore the collaboration between PWDs and nondisabled participants in a DT workshop. Additionally, the research design, particularly the selection of the case-study methodology, is discussed, highlighting different approaches and the suitability of a single instrumental case study. Furthermore, this chapter delves into the sampling strategy, data-collection techniques, and the rigorous data-analysis process, illustrating how the thematic analysis was approached. Ethical considerations, which include obtaining ethical approval and ensuring participant autonomy and dignity, are also addressed. This detailed exploration of the research approach and strategy, design, sampling and data-collection procedures sets the stage for the subsequent analysis and interpretation of the findings that are presented in this disseration's later chapters.

3.1 Research Approach and Strategy

This study employed an inductive research approach due to its exploratory nature (Gioia et al., 2013; Langley, 1999) that allowed the researcher to identify unexpected dynamics in the collaboration between PWDs and nondisabled participants. The researcher studied the collaboration between PWDs and nondisabled people in a two-day DT workshop; case study as a design is suited to an inductive approach (Baxter & Jack, 2008; Eisenhardt, 1989). In contrast to a deductive research approach, which is applied when research commences with a prediction or hypothesis, the nature of an inductive approach concerns insights that emerge from empirical data (Edmondson & Mcmanus, 2007; Langley, 1999).

Furthermore, qualitative research was applied as it is best suited to study people, cases, social situations, and phenomena, which includes describing the meanings people make of their experiences in the world (Yilmaz, 2013). Qualitative research can also delve deeply into the complexity of a social occurrence and its multi-faceted nature (Yilmaz, 2013). For this study, the intention to get a deep understanding of the nature, challenges, and factors faced by PWDs and nondisabled participants in collaboration with each other was the focus. A qualitative strategy, therefore, enabled a deep understanding of the case and brought to light the complexities of such a collaboration (Dyer & Wilkins, 1991; Gioia et al., 2013; Stake, 2010).

The researcher adopted a constructivist research paradigm, which is considered ideal for exploring DT as it aligns with the principles of constructivist learning (Pande & Vijayakumar Bharathi, 2020). According to constructivists, knowledge is constructed when people actively form their perspective of the world (Schwandt, 1994).

Schwandt (1994) argues that knowledge is not passively gained through observation but is actively constructed through the interaction between individuals and their environment. Moreover, the context and the social aspect of knowledge construction are paramount in constructivism. In this light, the case study was analysed to gain an understanding of the collaborative dynamics between PWDs and nondisabled people. The research paradigm also suggests that truth is relative and that people construct their realities (Baxter & Jack, 2008), which is why it is suited to understanding the distinct lived experiences and perceptions of PWDs and nondisabled individuals because it seeks to grasp their understanding of the world; it is influenced by societal context; and it grants the researcher the opportunity to investigate people's sense-making processes and their subjective experiences (Carroll et al., 2018; Sandahl, 2018; Schwandt, 1994; Wise, 2018).

3.2 Research Design

Case studies offer a unique ability to observe and describe the complexity of interrelations in rich detail, bringing forward a deep and layered understanding of an event (Baxter & Jack, 2008; Dyer & Wilkins, 1991; Stake, 2005). Conducting a case study, therefore, can explore complex situations by looking at something simple, such as an individual or situation. The research framework can help the researcher study a case and answer questions starting with "how" and "why" while taking its context into account at the same time (Baxter & Jack, 2008, p. 556). Case studies use a variety of data sources, such as interviews, documents, observations, and artefacts, to comprehensively understand the phenomenon being studied (Baxter & Jack, 2008).

Notably, case studies can either be a single case study or multiple case studies (Baxter & Jack, 2008). Single case studies provide a detailed analysis of a specific individual, group, or event, while multiple case studies involve studying several cases to compare and contrast findings. Single case studies offer an in-depth understanding of a phenomenon within its context, while multiple case studies enable researchers to identify patterns and draw comparisons across various instances.

While Yin (2003) focuses more on theory testing and generalisability, Stake (2005) emphasises the unique context and participants' perspectives in the case study.

In a quest to find ordinary and distinct aspects of the collaboration between a group of PWDs and nondisabled participants in a DT workshop, Stake's (2005) more open-ended and qualitative approach was more suitable to the nature of this study. As participants worked towards finding a solution to better access information about restaurants' accessibility features in Cape Town, the case's distinctive nature requires drawing on how it has been set up and unfolds and works (Stake, 2005). The case's background, setting, and external context, such as

political, social, and economic influences, were also paramount to the meanings and understandings created by the different participants (Stake, 2005).

According to Stake (2005), the five requirements for conducting a case study are (1) choosing issues, (2) the manner in which triangulation takes place, (3) experiential knowledge, (4) context, and (5) activities. A case is typically an operational entity or functioning body, regardless of its complexities, known for its definite limits as a bounded system (Stake, 2005). These characteristics of the case study are both applicable in the context of a DT workshop, as it can be considered a functioning body with clear boundaries, which includes research interviews preceding and concluding the event.

In this DT case study, a focus was placed on experiential knowledge that was encountered during the activity-driven DT process, which adopted Hasso Plattner d-school's five-step approach: (1) empathise, (2) define, (3) ideate, (4) prototype, and (5) test (Interaction Design Foundation, 2016, para. 1). The research also considered nuanced social, political, and other external contexts, specific to both participant groups (Stake, 2005).

As a co-facilitator of the DT workshop, the researcher monitored activities closely through in-person note-taking and observations. Notably, the researcher played a supporting role and, therefore, had the capacity to note observations throughout the workshop. The data also included observations and reflections by people who were not co-creating members of the design teams but observed the event. These observers included the interpreter, videographer, and stakeholders the participants interviewed during the DT process (Tschimmel, 2012).

The study's unit of analysis – referring to the specific entity or phenomenon under investigation (Yin, 2011) – was the collaboration between PWDs and nondisabled participants in a two-day DT workshop, which adhered to the bounded nature of the case study (Baxter & Jack, 2008; Dyer & Wilkins, 1991; Stake, 2005). The case study design was particularly useful for capturing the dynamic interactions in the DT workshop, allowing a deep exploration of how

collaboration unfolded in real-time. In addition, a case study lends itself to verifying information and observational data. With this in mind, Stake (2005) describes triangulation as a process that leads to clarification by using multiple data avenues and perceptions to confirm the consistency of observation or interpretation.

In this case, a DT workshop presents an opportunity to study the interactions between PWDs and nondisabled people empirically. Co-designing participants were interviewed before and after the workshop, which revealed various experiences, judgements, and testimonials and aided in building a rigorous academic reasoning process.

The most significant differentiation between contexts was the different experiences of PWDs and nondisabled people, which was a crucial driver in the sampling choice (Stake, 2005), which is elaborated on in the next subsection. The research was conducted as a single case study, which fused depth and theoretical simplicity (Langley, 1999). This study identified a topical concern and foreshadowed known problems first. These problems, such as a lack of awareness of disability and accessibility issues for PWDs, allowed the interpretation of data, the organisation of issue-related observations, and the formulation of assertions after patterns identified during the research process were analysed and interpreted (Stake, 2005).

The research was conducted to gain rich detail about a social phenomenon, so an instrumental case study was chosen (Baxter & Jack, 2008). Stake (2005, p. 445) defines instrumental cases as those that reframe generalisations to gain insight into an issue. For Stake (2005), the case is of secondary interest; it plays a supportive role in facilitating understanding of something else, with depth and detail essential components to the research design.

The researcher opted for complex purposive sampling over simple purposive sampling because of its detailed selection process and prioritising depth and specificity, even though it requires more time and effort (Campbell et al., 2020). This sampling strategy allowed a deep

view of the interactions and the value of the unit of analysis – the co-creation or collaboration between PWDs and the nondisabled (Yin, 2011). In this case, the object and the unit of analysis are both the collaboration between all participants in the DT workshop, as this alignment enabled a deep discovery of the collaborative effort, providing rich and detailed insights on the matter (Yin, 2011). In addition, the research design enables the potential to develop or deepen existing theories (Dyer & Wilkins, 1991; Eisenhardt, 1989; Eisenhardt, 1991; Stake, 2005).

3.3 Sampling

This study used purposive sampling. This study's sample comprised 12 people with and without disabilities, which was divided into a varied selection of six PWDs and six nondisabled participants with a range of prior exposure and engagement with PWDs and disability in general, as well as one additional DT workshop facilitator. Additionally, following the event, the interpreter, videographer, and two interviewees who voluntarily opted to attend the workshop longer than necessary because they were so intrigued by it shared their observations of the core participants' interactions and how they experienced the DT workshop.

Three of South Africa's most prevalent disabilities are (1) hearing, (2) visual, and (3) mobility impairments (Republic of South Africa, 2011). These disabilities were specifically included in the selection of PWDs to ensure their experiences and needs were documented for future reference. To create a balanced distribution with a broad representation of PWDs in each team, two design teams consisting of three PWDs and three nondisabled people each were constructed – see Table 1 on the next page for more detail on each participant. Additionally diversity was taken into account overall by including people ranging in age, culture, work experience and prior engagement with disability, to get a nuanced perspective from the group.

Table 1: List of participants and nonparticipants

Participant[4]	Disability	Detail	Team
Anna	Nondisabled	Has extensive experience with disability, as her son has cerebral palsy.	Green
Abby	Disabled	Paralysed from a young age due to a traumatic event.	Green
Luyanda	Disabled	Lost his sight as an adult, now lives in a residence with other visually impaired people.	Green
Elena	Disabled	Has very limited sight (5%), but lives independently and has a guide dog.	Green
Charl	Nondisabled	Has extensive experience with tutoring a blind student while at university.	Green
Sam	Nondisabled	Has extensive experience with PWDs.	Green
Ben	Disabled	Paralysed as a young adult during a traumatic event but lives and travels independently.	Yellow
Bertie	Nondisabled	Has limited experience with PWDs but previous experience with DT.	Yellow
Justin	Disabled	Deaf, communicates via South African Sign Language (SASL), lip reading, and WhatsApp.	Yellow
Busisiwe	Nondisabled	Has limited experience with PWDs.	Yellow

[4] The participants have been assigned pseudonyms, as they participated in the study anonymously.

Charlene	Disabled	Hard of hearing with cerebral palsy, but lives independently.	Yellow
Klara	Nondisabled	Limited experience with PWDs.	Yellow
Tanya	Nondisabled	SASL interpreter, who interpreted for hearing-impaired participants in the Yellow Team.	N/A
Theunis	Nondisabled	Videographed the event, and was interviewed because he observed the entire event.	N/A
Cornelius	Nondisabled	Facilitated the DT workshop, has limited experience with PWDs.	N/A
Nikki	Disabled	Stakeholder who has cerebral palsy, did not participate but was interviewed by design teams to gain insights into the practical challenges she faces when going to restaurants.	N/A
Yolisa	Disabled	Deaf stakeholder, uses SASL to communicate. Did not participate but was interviewed by design teams to gain insights into the practical challenges he faces when going to restaurants. Also chose to stay longer than was necessary and observed the Yellow Team.	N/A
Sarie	Nondisabled	Was once momentarily wheelchair-bound, a restaurant owner at the time of the event. She was not interviewed and, therefore, was not included in the data set.	N/A
Kagiso	Disabled	Paralysed, engaged with design teams over Microsoft Teams, with captions on for easier legibility. He was not interviewed and, therefore, was not included in the data set.	N/A

Purposive sampling is best applied in qualitative research studies that require selecting participants who can offer detailed and pertinent information related to the research objectives (Campbell et al., 2020). This method is especially valuable when the researcher intends to include particular types of individuals or cases that are likely to provide relevant and valuable information for the study (Yin, 2011). As the PWDs' unique lived experiences make them experts on accessibility issues in restaurants and seeking information about its accessibility features online, the researcher and her supervisor approached participants with disabilities known to them or by referral from their networks. The nondisabled participants were sampled similarly, with consideration paid to find a selection of participants considering a mix of expertise and prior experience with disability. There was a deliberate attempt to bring a diverse range of people together in terms of race, culture, age, skills and experience. Purposive sampling is particularly useful when researching underrepresented groups like PWDs, as it allows for the selection of participants who have deep insights into accessibility challenges (Campbell et al., 2020). This is not only typical in a case study (Baxter & Jack, 2008), but research shows that explicit choices in sampling heighten the trustworthiness of the data (Campbell et al., 2020), which in turn improves the rigour of the study (Gioia et al., 2013).

3.4 Data Collection

During the collaboration process, various data-extraction methods were employed, ranging from observation during an in-person workshop that took place at the Shoprite Group's home office in Brackenfell, Cape Town, and two online interviews via Microsoft Teams or Zoom with each co-designing participant – a pre- and post-workshop interview – as well as additional post-workshop interviews with nonparticipating observers, to ensure a rigorous qualitative study (Gioia et al., 2013). These online interviews took place in the month long building-up

toward the physical workshop and afterwards it was conducted approximately within two weeks of completing the in-person event. Multiple data sources can improve the credibility and validity of the case study (Baxter & Jack, 2008; Stake, 2005), as was done in this study.

The study's research tools were primarily interviewing, observations, and reflections. In qualitative research, interviewing involves asking open-ended questions to individuals or groups to gain first-hand insights into their experiences, perspectives, and opinions (Stake, 2010). This method provides comprehensive data on participants' attitudes, beliefs, and behaviours. Interviews can be structured or unstructured, and participant selection, such as purposive sampling, is crucial (Campbell et al., 2020). The interviewer plays a critical role in creating a conducive environment and actively listens to responses; moreover, recordings and transcriptions of interviews facilitate analysis, helping researchers identify relevant patterns and themes (Yin, 2011). Observations in a research setting entail systematically observing, listening to, and documenting behaviours and engagements or events within a specific context or environment for first-hand qualitative insights. During the DT workshop, the researcher primarily observed without directly influencing the participants' actions, ensuring unbiased data collection. The participant observation occurred via the systematic recording of the data through field notes, audio or video recordings, and photographs to capture contextual nuances and nonverbal cues (Yin, 2011). Furthermore, reflections in a research setting encompass an ongoing and thorough evaluation of the researcher's standpoint, activities, and understandings throughout the research process. This introspective analysis enhances the research, transparency, and ethical integrity (Yin, 2011).

To prepare for the workshop, the researcher conducted the first round of interviews with the co-designing participants. The researcher conducted these semi-structured, exploratory interviews to establish the participants' needs and expectations (see pre-workshop questions in Appendix A). Following an initial explanatory call, candidates expressed interest,

and the researcher arranged interviews. After initial contact, the researcher shared a follow-up email with a letter of consent, background to the study, and some information on what DT entails with each participant. Once participants returned their letters of consent, the researcher set up individual online interviews on Microsoft Teams or Zoom software for those who did not have access to Microsoft software.

During the workshop, the researcher's primary focus was observations, enabling first-hand familiarisation with the participants' experiences. This was also supported by the participants' reflections in a second round of semi-structured interviews after the workshop (see Appendix A). The second round of interviews was also recorded on Microsoft Teams or Zoom. Sufficient reflexivity was also brought forward by conducting post-workshop interviews with nonparticipating observers, which included the videographer, interpreter, and stakeholders in the DT process. In addition, reflexivity was maintained through continuous self-reflection and keeping a research diary, which helped minimise bias during observation and analysis (Stake, 2005). Observations encompassed various media items, which led to capturing different perspectives (spatially and in terms of engagement) during the DT process (Heron et al., 2022; Pande & Vijayakumar Bharathi, 2020). In addition to recording post-workshop interviews, the DT workshop was captured on video and audio. Observations were also noted in writing and photographs throughout the event. The convergence of these different data elements helped to weave together various perspectives to unearth a deeper understanding of the case and familiarise and recollect the event (Baxter & Jack, 2008).

As part of the DT process, a restaurant owner and three PWDs were identified as relevant stakeholders, which workshop participants had to interview as they familiarised themselves with the core user of the problem they were trying to solve. These stakeholders are also the people with whom they tested their respective prototypes to ensure that the design process remains human-centric (Heron et al., 2022; Pande & Vijayakumar Bharathi, 2020). An

outline of semi-structured questions (see Appendix B and C) was provided as prompts to guide the workshop participants, who formed two design teams during the event with this interviewing process. Although these interviews were not part of the primary data set, they deepened the reflexivity of the workshop participants, as they provided the workshop participants with a "zoomed out" perspective as they were not so close to the event and the problem they needed to solve as part of the DT innovation process.

In addition, the researcher enhanced reflexivity by maintaining a diary for recording reflections. Although not the lead facilitator, the researcher played a supportive role, enabling them to balance proximity and distance from the collaborative process, thus leveraging intimate insider access (Stake, 2005).

3.5 Data Analysis

Atlas.ti, a data-analysis software for qualitative research, was used to ensure the data was secure and systematically ordered (Baxter & Jack, 2008). After collecting the data, it was analysed using Braun and Clarke's (2006) six phases of thematic analysis: (1) familiarisation with the data; (2) generating codes; (3) synthesising these codes into themes; (4) reviewing themes and subthemes; (5) defining and naming themes; and finally, (6) producing the report.

Familiarisation with the data is an essential first step in getting acquainted with its depth and breadth. The data familiarisation process started during the researcher's in-person observational note-taking, and then systematically reviewed the audiovisual material and noted key observations throughout the process. The complete data corpus consisted of multimedia elements, including comprehensive audiovisual material focussed on each of the design teams' activities on each day and the separate interviews DT participants held with workshop stakeholders during the observational and testing phases of the workshop.

After the videographer transferred the materials and additional sound files of the event itself, they were transcribed – partially by machine to save time (Booth et al., 2016), but also a (human) transcriber, as well as the researcher. Thereafter, the researcher started the process of "repeated reading" before coding commenced, and this further deepened the researchers's knowledge of each team's interactions, building on the researcher's observational data during and after the event, which also supported the formation of codes and themes.

As the pre- and post-workshop interviews were also recorded, a transcription process was also initiated. How the transcription is conducted is a critical factor in qualitative research and becomes a complex matter of representation (Yin, 2011). It also takes time to reflect on how the transcription is conducted so that it honours the research process and is true to the voice of the participants (Oliver et al., 2005). In total, the transcription and familiarisation phase of this study took three months to complete.

Both the structure of the dialogue and how the text and flow of the conversations are presented must be captured in the transcribed material; therefore, a dramatic-script format was used to sequence and indicate the conversational nature of collaboration-driven processes (Oliver et al., 2005). Although denaturalised transcription stands in contrast to the more conversational naturalised approach, this study required the denaturalised method. This was due to the diverse range of accents and linguistic capabilities (Oliver et al., 2005), which in this study often included a SASL interpreter for a deaf participant. The pragmatic denaturalised approach involves correcting grammar, eliminating background noises, and making accents uniform. In this study, the lingua franca was English and SASL, though participants often switched to Afrikaans. Accents included many South African English accents, including those by Xhosa and Zulu mother-tongue speakers. The diverse range of voices and communication styles in the room dictated a practical approach to ensure that the meanings and perceptions constructing realities were effectively communicated in the transcript (Oliver et al., 2005).

To further add to this pragmatism, a decision was made to transcribe verbatim and to capture speech precisely as it is spoken, including all hesitations, repetitions, false starts, and nonfluencies, which all preserve the speaker's exact words and delivery (Yin, 2011). The denaturalisation of the text only commenced when the researcher worked with the copy during the editing process and adjusted the text to capture the meaning of the different participants cohesively (Oliver et al., 2005). There are several benefits of choosing denaturalised transcription over naturalised transcription when recordings of groups are concerned, including improved clarity and comprehension, a focus on content rather than communication specifics, demonstration of participant respect, standardisation for group studies, and reduced misunderstandings. In many cases, people speak over one another, which lead to confusion and, in turn, inaccuracies.

After the audiovisual material and transcripts were reviewed, the researcher identified latent and semantic themes of particular interest and took notes to start shaping ideas for coding purposes (Braun & Clarke, 2006).

After gaining familiarity with the data and compiling ideas about what it consists of and why it seems interesting, the next step is to refine and construct an initial set of codes of interest (Braun & Clarke, 2006). This process helps to organise the data into meaningful groups. As the themes of this research are data-driven, they were identified based on the data itself. The data set was coded by going through the entire set and identifying exciting items that might form a pattern. Atlas.ti was used to match codes and data extracts. Atlas.ti facilitated the organisation of codes by allowing the researcher to assign and categorise data extracts, making it easier to track patterns and relationships. Under the guidance of the researcher's supervisor, who ensured sound academic practice, the researcher coded a complete range of interviews – 13 pre-workshop and 17 post-workshop interviews. After a feedback session with her supervisor, his research assistant and a fellow student who shared the same supervisor.

which was recorded to ensure accurate data coding, the team confirmed that the data was coded correctly collectively.

During the coding phase, the researcher's supervisor and the aforementioned research team first discussed a list of initial, proposed codes before narrowing them down. They then collaboratively discussed and debated the first categorisation of the codes, and the researcher eventually derived the overarching themes of inclusivity, resilience, and synergy. No extracts or data were eliminated at this stage.

On the ground of recognising similarities and/or intricacies, themes can be merged or divided into subthemes – as long as the data in each theme is coherent with a clear distinction (Braun & Clarke, 2006). In this research, the process of refining and reviewing the themes and subthemes was enhanced thanks to the contributions from both the researcher and the supervisor. The fourth phase in Braun and Clarke's (2006) analysis underwent two stages in this dissertation: First, individual codes and their extracts were reviewed by the author and her supervisor to ensure coherence in the patterns. When themes did not fit, they were reworked or recreated, or extracts were simply removed from the analysis. A thematic map was then drawn up to illustrate prevalent themes and the patterns they formed – see Table 2 in the findings chapter.

Secondly, we thoroughly considered the validity of each theme in connection with the complete data set during a supervisory session. This ignited a discussion on the thematic map's ability to convey the entire data set's meaning, which the research team confirmed. As Braun and Clarke (2006) remark, this stage aims to determine whether the themes work in conjunction with the data set and to code any data within themes that were missed during previous processes. This dissertation's iterative refining process continued until the thematic map (see Table 2) made sense.

3.5.1 Defining and Naming Themes

When the thematic map was completed, the definition and naming of themes followed. In this phase, the author identified each theme's core and what facet of the data it encapsulates. Braun and Clark (2006) caution against complex themes, which is why the researcher opted to arrange data extracts coherently to create a narrative for each theme. Braun and Clarke (2006) state that this should not just include paraphrased versions of the extracts but rather showcase what is of interest for each theme – and why it is significant. For this reason, the researcher wrote a detailed analysis of each theme, considering how each relates to the other and their subthemes and how they could be useful to structure the narrative when a complex theme is discussed.

3.5.2 Trustworthiness

Trustworthiness is achieved through four aspects of trustworthiness: credibility, transferability, dependability, and confirmability (Campbell et al., 2020):

1. **Credibility:** The study's purposive sampling of PWDs and nondisabled participants with some prior experience with disability contributed to strengthening the data's relevance. Additionally, the engagement period with participants spanned over xxx months from exploratory conversations to the final a post-workshop interview which increased the sense of trust between the researcher and the participants. Credibility was further enhanced through the triangulation of multiple data sources and means of data gathering including the pre- and post-workshop, observations during the workshop, and the workshop recordings. Furthermore, the coding process included additional reviews

by the researcher's supervisor. Lastly, the rich descriptions of findings further confirm the depth and credibility of this case study data.

2. **Transferability:** The learnings of this study can be applied in various contexts where PWDs can be involved in problem-solving relating to disability and access for example the findings could be applied to inclusive innovation (II) processes to address issues relating to minority groups where two communities consisting of a dominant or disenfranchised community need to collaborate.
3. **Dependability:** The data corpus includes video recordings and transcriptions of the pre-and post-workshop interviews, observational notes, photographs, and diary entries by the researcher. With detailed records of the research process and critical decisions, as well as the process of confirming coding contributed to the finding's dependability. Moreover, the researcher's supervisor reviewed notes throughout the dissertation development. This entailed a mix of written feedback and conversations.
4. **Confirmability:** Objectivity and neutrality were aided through multiple data sources and providing extensive perspectives over time as well as the researcher kept a reflexive diary.

3.5.3 Producing the Report

Following the comprehensive coding process, its categorisation, and thematic reviews, the researcher produced a report – or, in this context, the dissertation. The report connects the findings from the thematic analysis back to the research question by demonstrating how collaboration between PWDs and nondisabled people influenced the development of inclusive solutions. Braun and Clarke (2006) point out that it should assure the reader that the research is relevant, authoritative, and valid by providing a body of work, including the data excerpts,

and offers a brief, cohesive, logical, non-repetitive, and engaging narrative of the insights conveyed by the data, both within individual themes and across them. This is, of course, the researcher's aim in this dissertation, but this study will go beyond a mere description of the themes' prevalence and analysis – the research question will also be answered and defended with a narrative analysis, which has many advantages: flexibility, ease, and accessibility to the public; it is ideal for collaborative research processes; it could depict the essence of the topic through its summarising capabilities, and provides rich insights into the data set; it could generate unexpected insights, and leaves room for social interpretations of data; and its outcomes could well inform policy development (Braun & Clarke, 2006).

3.6 Ethics

The ethical considerations for this study were meticulously adhered to in accordance with institutional and academic guidelines. Ethical approval (reference number: REC 2022/09/016) was obtained from the University of Cape Town's Ethics Committee prior to the commencement of data collection, ensuring that all procedures were rigorously vetted. The researcher ensured that the research objectives were clearly communicated to all participants from the outset, as outlined in Appendix D, which provided a detailed description of the study's purpose.

To protect participant privacy and maintain confidentiality, all data collected – both transcripts and audiovisual materials – were anonymised, guaranteeing that individual identities were not disclosed. The researcher prioritised relational autonomy (Stefánsdóttir et al., 2018) throughout the data collection process by making necessary accommodations to support participants with any communication or physical access needs. This mindful approach

ensured that vulnerabilities related to disabilities were addressed, cultivating a dignified and inclusive environment for all participants (Bam & Ronnie, 2021; Wise, 2018).

Furthermore, while purposive sampling was employed to select participants with relevant experiences, participation in the study remained entirely voluntary. Participants were informed of their right to withdraw from the study at any time without any consequences or need for explanation (Campbell et al., 2020). These ethical safeguards ensured the integrity of the research and the well-being of all involved.

3.7 Conclusion

This chapter has outlined the methodological framework guiding this study on collaboration between PWDs and nondisabled participants in a DT workshop. The inductive, qualitative approach within a constructivist paradigm, using a single instrumental case study design with purposive sampling, provided a foundation for exploring collaborative dynamics between these diverse groups. Multiple data collection techniques, including interviews, observations, and reflections, ensured comprehensive insights into the collaborative process. Braun and Clarke's (2006) thematic analysis framework facilitated systematic pattern identification, while trustworthiness was established through triangulation, detailed descriptions, and supervisor consultations. Ethical considerations were prioritised throughout the research process, promoting participant autonomy and dignity. This methodological approach served as a solid foundation for the analysis and interpretation presented in subsequent chapters.

CHAPTER 4: FINDINGS

In this chapter, the findings of the case study are presented to address the main research question:

> **How can collaboration between the disabled and nondisabled community in a design thinking workshop improve information on South African restaurants' accessibility features?**

The study unearths three overarching themes through a narrative analysis: (1) inclusivity, (2) resilience, and (3) synergy, each with underlying categories.

The overarching theme of inclusivity is explored through two primary categories: (1) accessibility and (2) diversity. The study highlights the experiences of PWDs facing accessibility issues and demonstrates the transformative power of inclusivity in problem-solving within a DT workshop. The value of including diverse perspectives in collaborative efforts to enhance the social inclusion of PWDs was also found. This intersection between accessibility and diversity allowed participants to develop innovative solutions that considered the wide range of challenges faced by PWDs, enabling a more holistic approach to improving restaurant accessibility.

Resilience, the second overarching theme, is subdivided into (1) attitude, (2) normalcy, and (3) vulnerability related to disability. This section reveals optimism for inclusivity but also collaboration barriers like negative attitudes and othering. Acts of assistance and a shared commitment to workshop goals further strengthened trust.

Synergy, the third overarching theme, explores collaboration and communication. The study sheds light on interactions between PWDs and nondisabled individuals as well as the

interactions between PWDs with different disabilities. Also, it shows the influence of familiarity with PWDs in a collaborative environment. Collaboration bridged gaps between PWDs and nondisabled participants, highlighting the essential role of clear communication and relationship-building for practical and inclusive innovation. The small design teams highlighted the significance of every participant's input. Flexibility in terms of how participants responded to the workshop and its exercises, particularly for visually impaired participants, and familiarity with disability among nondisabled individuals boosted productivity and trust. The lived experiences of PWDs influenced decision-making, underlining the importance of diverse perspectives for innovative solutions despite time constraints. Communication during collaboration touches on discomfort, education, and awareness. Effective communication emerged as pivotal for synergy, especially for participants with impairments. Efforts were made to enhance inclusiveness, stressing the need to actively engage in communication. However, the study also revealed a lack of awareness among both PWDs and nondisabled participants, underscoring the need for education and empathy to foster mutual understanding about disability.

Table 2: Thematic map

Codes	Categories	Themes
• Accommodation • Assist • Support • Inclusion • Adaptation • DT	*Accessibility*	**Inclusivity**
• Capabilities • Capacity • Leadership • Purpose • Optimism • Relatability	*Diversity*	
• Indifference • Othering • Self-othering • Appreciation	*Attitude*	**Resilience**

<table>
<tr><td>

- Awareness
- Allyship
- Pride

</td><td></td><td rowspan="3"></td></tr>
<tr><td>

- Avoidance
- Lack of interaction
- Exclusion
- Normative language

</td><td>Normalcy</td></tr>
<tr><td>

- Isolation
- Time
- Distraction
- Curiosity
- Surprise
- Mental Health
- Trust

</td><td>Vulnerability</td></tr>
<tr><td>

- Encounters with disabilities
- Familiarity
- Lived experiences of PWDs

</td><td>Collaboration</td><td rowspan="2">Synergy</td></tr>
<tr><td>

- Discomfort
- Education
- Lack of Awareness

</td><td>Communication</td></tr>
</table>

4.1 Inclusivity

The overarching theme of inclusivity, referring to the inclusion of both PWDs and nondisabled people, their ideas and treating everyone fairly and equitably, is captured by two primary categories: (1) accessibility and (2) diversity.

Concerning the former, as this study is strongly related to disability, accessibility can be described as the ability to enter or be used by everyone. However, the nuanced dimensions and perceptions of this concept become clearer throughout these findings. For instance, participants felt that although accessibility is essential to establishing social inclusion and independence, it is seen as a minority's necessity and is, therefore, subsequently not prioritised. Participants further noted that accessibility is a barrier to equality between PWDs and nondisabled people because it is not prioritised in the mainstream narrative. Other, more granular codes conceptually related to accessibility, like accommodation, assistance, support, inclusion, adaptation, and DT, are put forward throughout these findings.

Also under the umbrella of inclusivity, diversity refers to a range of various people and, in this context, different disabilities, races, cultures, genders, ages, and skill sets. Findings related to the diversity category prominently discuss the power of multiple voices, turn-taking in conversations, and the complexity of PWDs' needs, which must be factored in to achieve accessibility. The topics of capabilities, capacity, leadership, purpose, optimism, and relatability are connected to diversity, which will be further discussed in the following section.

4.1.1 Accessibility

Moving towards greater accessibility as a purpose motivated both PWDs and nondisabled participants, but for the former, having accessibility needs catered to during the workshop enabled PWDs to engage fully. In the pre-interviews, most of the participants, regardless of (dis)ability, felt that PWDs are not adequately accommodated in the restaurant industry in South Africa and that accessibility issues are not part of mainstream awareness. The 13 participants (including the facilitator) who were part of the co-design effort all believed restaurant employees are generally untrained and unaware of the needs of restaurant patrons with disabilities, and five participants with disabilities looked beyond their own disability towards other disabilities' potential challenges, as they deliberated accessibility issues. Ben captured these sentiments highlighting a broader systemic issue of inadequate disability awareness in public spaces, which often limits the social participation and independence of PWDs:

> You go into a restaurant, and if you are blind, how are you meant to read the menu? [...] A couple of Wimpy's I have come across have Braille menus. I also have a service dog, and that is a guide dog. Nobody knows about it, so I am always challenged wherever I go... That is just not thought about.

Participants defined accessibility as an equaliser, a means of gaining access to information or creating comfortable spaces for all. During interviews, a distinct difference between PWDs and nondisabled people's comfortability, or ability to be at ease, in social settings was noted. Six of the disabled participants emphasised that many "disabled people feel very uncomfortable" in general, let alone in places where they are not considered or accommodated. The ease with

which PWDs can access information or spaces, especially in the restaurant industry, with the same comfort as someone without a disability is essential in establishing comfort. Eleven participants felt that accessibility was meant to "level the playing field". They agreed that there are different ways to access the same thing, whether it is information, a way of communication or a physical barrier to entry, as long as the ease of gaining access is not compromised.

PWDs also directly relate accessibility to independence, as well as the accommodations put in place to enable independence and, ultimately, social inclusion. PWDs [6] expressed the desire to be independent and act with agency as they make decisions about their social life. They would like to visit a restaurant without having to call in advance to check if their needs are met. PWDs must be accommodated and be able to visit or find out more about the venue "without the assistance of anyone else". Moreover, if a restaurant's purpose is to provide food and drinks to people in a social environment, everybody must be accommodated for the restaurant to meet its primary objective and purpose. As Anna suggested: "If the shop is accessible to me, I would be able to get there, and I must be able to enter and use it." For many PWDs, accessibility is not just about physical entry into spaces but also about gaining the independence to make decisions about their social lives without having to rely on others for assistance.

For most participants [9], accessibility as a concept is only related to disability; therefore, accessibility is seen as either a matter of promoting disability inclusion or driving disability exclusion. Accessibility is further described as ways for PWDs to gain access to things nondisabled people can access without effort. Three nondisabled participants understood accessibility only as physical access barriers, such as wheelchair-accessible bathrooms. Although this was the minority of the participants, the lack of awareness surrounding issues of the full scope of accessibility – ranging from access to information to comfort and the ease

with which services or spaces are accessed – was more evident among nondisabled participants than PWDs.

Most workshop participants [14] believed PWDs are not adequately included in problem-solving or innovating collaboratively to create a more accessible and socially inclusive world. This highlighted that although assistance for PWDs could come from nondisabled people, PWDs can also significantly and integrally assist with their expertise towards better accessibility for all. Abby voiced the same frustration as other disabled participants [5] when she noted that "it feels like they do not involve people 'like us' that are experiencing this, to assist" in solving problems regarding PWDs. The perception emerged that PWDs are "less than" or sometimes thought of as less capable and, subsequently, not included in social structures or spaces. Furthermore, many of the nondisabled participants admit biases in this regard [5], even though half of them are either currently assisting or have previously assisted or supported PWDs, having a higher level of sensitasation to disability.

Nondisabled participants [5] did not necessarily assume that PWDs needed any assistance during the workshop because PWDs "have solutions for most of the things we take for granted". One of the nondisabled participants, Bertie, admitted avoiding asking about accessibility issues, unless they needed to work together for a prolonged period. In many instances, nondisabled participants [5] were more concerned that they would over-assist. As Theunis, the videographer, remarked:

> I was sometimes afraid of overcoddling – maybe this person can walk on their own – but I was afraid that I would hover and offer an arm to walk downstairs. Are you OK? I am always afraid of overcompensating, of helping too much where it feels like I would infringe on their independence. I am unsure; I ask and then, if not, step away.

PWDs expressed the need for assistance in creating an accessible, collaborative effort. Being independent does not mean they do not want help from nondisabled people during a DT workshop – or, in Luyanda's words, the occasional need to "borrow their eyes". Elena, the other participant with a visual impairment, echoed this sentiment. Abby, living with paralysis, emphasises the coexistence of independence and assistance, recognising them as not mutually exclusive:

> I do not like to be assisted in the sense of doing things that I should be able to do on my own, like getting into spaces, or being able to make a cup of coffee or assisting with lunch… Those are the types of things that I should be able to do on my own and should not feel the need – at least for me – to be assisted in that sense. But smaller things like working in groups and just putting up the paper, for example, are fine.

For Justin, the deaf participant, the volunteer sign-language interpreter's assistance during the workshop was crucial for enabling teamwork in DT. Without her help, "many challenges" between nondisabled participants and him would have arisen. The presence of more than one deaf and hard-of-hearing individual heightened the awareness of their inclusion throughout the workshop. Scheduling resting periods for the interpreter, alternating between a few, would have ensured consistently clear communication. This communication gap affected social interactions and inclusion, creating a barrier to trust-building. Busisiwe also noted in her post-workshop interview how her team mate Justin, reliant on SASL, missed out on informal interactions between participants, leading to a delayed response time that impacted the entire team during the DT workshop.

> With hearing people, you can decide what conversation you want to get involved in. You can see two people talking. If that does not interest you, you move on, whereas, for someone deaf, it is difficult to tell. It also affected communication within the group because people often had to hold back so that a person could speak and be understood.

In addition to robust discussions on poor policy enforcement to promote accessibility during the DT workshop, interviews revealed further concerns. Six participants expressed negative sentiments towards the low inclusion of PWDs in accessibility-related legislation. They also highlighted that people working on innovative solutions for PWDs often work in isolation, making decisions without input from the PWDs, regardless of the industry. Two PWDs in the workshop said that they "do not think they [government officials] consulted with PWDs" when considering accessibility on a legislative basis. Nondisabled participants and outside stakeholders [3] agree with this assumption. Many participants [8] noted that PWDs and nondisabled people should be in the same spaces more regularly and that policies will help enforce basic accessibility criteria so that better collaboration can take place. Some participants [3] thought that accessibility, and ultimately social inclusion, can only be adequate if legally binding arrangements or governmental policies demand consequences if it is not implemented. Participants go as far as saying it will only have any meaningful effect when these policies and frameworks are as mainstream as anti-smoking legislation. Cornelius, the nondisabled facilitator, captured the majority of the participants' viewpoints in this regard:

> If disabled people are not where nondisabled people are in public spaces, then there cannot be collaboration and... you are not allowed to smoke in a building, but are there the same level of laws that say you have to be accessible to disabled people to the level that they can access the place? That will need to happen.

Nondisabled participants [7] seemed to grasp the need for continual adaptation and PWDs' multifaceted individual needs immediately, as they did not have any first-person experience living with a disability. Nondisabled participants mostly acknowledged their heightened lack of awareness, not only throughout the workshop but also during interviews. A deepened understanding of this complexity mostly only came after these participants were exposed to various individual needs of PWDs in the DT workshop. Charl acknowledged the breadth of these needs and the flexibility, or willingness to change, they required:

> Your thinking has to be broader to make it accessible to many different people, and that requires flexibility… If you have one obstacle (we all want a better world), it is easy to find a way around that, compared to when you have two or three.

As part of their pre-interviews, the nondisabled participants imagined some of the adaptations, or changes to suit different needs, they would have to make to make the DT workshop more accessible for PWDs. In cases where nondisabled participants had some prior experience interacting with PWDs before (see Table 1 for the complete list of participants and their experiences with disability), it was often an excellent practical guideline for more inclusive collaboration practices during the event. For instance, Charl, who was previously an assistant to a blind student and therefore had extensive and intimate prior experience with engaging with PWDs, described some of the adaptations he would make in a workshop that included brainstorming, which mainly was implemented and benchmarked against other preliminary feedback from the participating PWDs. Charl also noted the importance of using platforms that are accessible to all for optimal and inclusive collaboration. For instance, if the workshop participants only had post-its and no laptop, brainstorming would have to be very verbal with

ample repetition, and even though there would be some writing, participants with visual impairments would have to be effectively communicated with. In practice, this approach was paired with access to computers for the two visually impaired participants based on their own recommendations. These multidimensional adaptations were well received during the DT workshop, and Charl's sentiments sum up how adaptations should be approached according to six participants:

> We'll use formats that they [PWDs] will be able to access. When you do have people with different disabilities around the table, there has to be a solution that everyone can access, and if, for some reason, there isn't one single solution, there should be two or three. One person can make sticky notes [post-its] on paper; another can type it on a laptop. We can do it in multiple different ways.

It is clear that adaptations and accommodations made by the facilitation team were not seen in isolation, as "everyone else [were] being accommodating as well, like repeating instructions and introducing themselves", which made the efforts to include dynamic and iterative as the process unfolded, from conceptualisation until completion of the workshop. One of the PWDs described adaptations and accommodations as a matter of fairness. In this case, there is the element of having additional material at hand to follow the programme, to try and bridge the inequitable visual nature of DT, as well as allowing for more time to process the tasks and meaningfully engage with each segment of the DT process. Luyanda voiced affected PWDs' [2] sentiments in this regard, amplifying how timeframes had to be reconsidered to accommodate him as a blind person:

> It will only be fair for the information to be given to me in an accessible manner, or else I will give them Braille. It will only be fair for the other members to be considerate and understand that certain things might take me 3 or 10 seconds longer and to be considerate around the issue of timeframe as well.

As the DT workshop included people with a range of physical disabilities – both mobility-related and sensory – it became evident that in the latter case, accessibility is not only a spatial issue. People living with mobility impairments' spatial needs were considered in the choice of venue, but sensory accessibility barriers lie in communication. Justin, a deaf participant, says candidly: "There is no accessibility for the deaf" in restaurants. Hard-of-hearing Charlene explained how valuable multiple communication avenues were during the workshop – the fact that DT relies heavily on writing on post-its, made it more accessible to her in terms of grasping everything the team collectively ideated:

> The colourful sticky notes [post-its] made it easier to follow, and when you did not understand it, you read it and remembered it because we were writing the whole time.

PWDs had mixed reactions about nondisabled people not getting accommodations "right" to work together in the workshop, even though there was a high level of tolerance towards one another and accommodative behaviour in the groups. Charlene said her hearing team members did not always use accommodations effectively to help ease communication during the collaborative effort. However, she exhibits some understanding by explaining: "People do not think that I need to read lips, so you need to repeat it." As a person with a disability, Ben reflected that he does not always know how to interact with other PWDs with different disabilities and experiences than him because "it's the same as able-bodied (sic) people being

put into rooms speaking different languages". However, similar to other nondisabled participants, he believes "we shouldn't be making different rules for different playing fields". Although most of the PWDs had a similar tolerance level for nondisabled persons' efforts, the frustration of inconsiderate actions often surfaced – not necessarily within the groups but in discussions about how PWDs are generally treated. In contrast to Charlene (above), Elena, a visually impaired participant, voiced frustration concerning PWDs who are opposed to having to be unempathetic to people who do not "understand" their realities:

> I think it is ridiculous that people always say you, as a disabled person, need to be empathetic towards people who do not have disabilities because they do not understand what you are going through. I think that is BS [bullshit] because most times, people who do not have disabilities are not empathetic towards people with disabilities. So why should a person with a disability always be empathetic and understanding of someone else's ignorance?

Overall, the PWDs expressed a positive sentiment in terms of the accessibility of the DT workshop as a collaborative process, and only nondisabled participants outright critiqued the limitations of the visually prone process. Charl, who was on a team with two visually impaired team members, felt DT was outright exclusionary. He, however, acknowledged that his view and experience "might have been completely different" to the other design team's, specifically because they had no visually impaired participants. The two deaf and hard-of-hearing participants on the opposite team contradicted Charl's view by exhibiting an attitude of appreciation for being included in the workshop. It also established a sense of trust and respect among team members, as Sam explains:

> Each group in your workshop had three people with disabilities and three able-bodied (sic) people, and that social contract, in the beginning, was cool because we stopped, saw past who was sitting at the table, and saw the people. We all come with different baggage, ideas, and understandings. The contract helped us respect that difference, and that respect meant that every idea was a good idea.

The DT workshop's accessibility largely depended on people's efforts to accommodate their teammates and be as inclusive as possible so their teammates had a meaningful and engaging experience during the collaboration process. Charl captured the capacity-led process of this continual effort to be collaborative, which was seen and acknowledged by all participants [17] – some as onlookers, co-designing participants, or receivers of these efforts – with strong leaders typically the driving force of these efforts, which was continually highlighted by their team members:

> It was an effort… It is hard for people, specifically our group: two participants who cannot see or see well. It is hard to see when it is your turn to speak or when it is just a good time to speak up […] when someone is not writing, or you are not going to disturb [someone] or the writing process. I think it [effort] came mostly from the people without disabilities, but I should also add sighted people, in our case, including one person with a disability.

Participants self-corrected or were occasionally corrected by team members due to a lack of continual awareness regarding necessary accommodations to ensure PWDs needs were met during teamwork. The videographer observed the ebb and flow of efforts to include teammates, particularly noting challenges faced by the team with two deaf and hard-of-hearing members.

He also observed the Yellow Team's experiences, emphasising the difficulties in consistently adapting communication for deaf and hard-of-hearing participants. While the Green Team more often remembered to be inclusive, both teams experienced a cycle of doing, forgetting, self-correcting, and/or reminding. The volunteer interpreter played a crucial role in driving this collaborative process by consistently reminding hearing team members to "accommodate a different way of communication". Theunis (the videographer) describes this iterative learning process:

> We had hard-of-hearing or deaf participants, and it was interesting to see how some people also forgot that in the [Yellow Team]. As the discussions went on, people would have solutions, and then without thinking, they would turn their backs or not show something, and it wasn't on purpose.

The venue for the DT workshop was carefully chosen to accommodate participants with disabilities in terms of their physical accessibility needs, and it was continually benchmarked with them ahead of the event, both in conversation (either in person or on the phone) or WhatsApp voicenotes and text messages. This prior agreement concerning adequate physical accessibility created a collaborative environment with ample workspace and minimal obstructions, catering to the needs of visually impaired people and wheelchair users. The lead facilitator emphasised the positive impact of the chosen venue:

> There were no unnecessary stuff lying around, and the people with wheelchairs could move easily and everybody else could have a good time.

Arrangements to foster inclusion in the workshop's physical setup, departing from the conventional standing arrangement, were reinforced by informal consultations with experienced DT coaches, who advised setting up a more accessible and socially inclusive environment for the participants to operate in. The furniture layout was not confined to wall space or whiteboards and included tables and chairs, enabling teams to face one another, which facilitated a dynamic collaboration environment. Despite the strategic table placement for wheelchair accessibility, it unintentionally resulted in uneven access to workshop aids, like post-its; as a result, teams adeptly leveraged both tables and wall space, adopting varied roles based on their capacities. Participants with sensory impairments appreciated the furniture setup, as it allowed them to face one another for clear audibility, which helped the teams "to work as a group a lot better". Ben, a wheelchair user, captured most participants' sentiments on this adaptable and supportive teamwork dynamic:

> It took on an organic growth. In terms of when we spoke prior [to the workshop], I said I would not be able to work on the wall because I do not have core muscles and falling-over issues, but what tended to happen in the group is, for different exercises within the workshop, one or two people would take the lead in terms of jotting down things, and when we move towards the wall, there were people in the team who were jotting down the things everyone else said – very collaborative, that worked well.

In some instances, particularly in the Green Team, adapting to accommodate barriers to collaboration faced by individuals with visual impairments especially affected the time limitations allocated for DT activities. Reacting to time-related issues required strategic flexibility by the facilitation team, often leading to the omission of specific steps. As pointed out by Charl, a nondisabled member of the Green Team, the emphasis on repetition for

inclusivity took time away from other steps, forcing the group to occasionally skip activities, like the semantic analysis. In his opinion, he noted that such omissions did not impact the workshop's vision or the quality of the final product; the step-by-step nature of the DT process allowed flexibility. However, as highlighted by lead facilitator Cornelius, careful consideration is crucial to maintain the process's benefits and ensure high-quality prototypes. Cornelius emphasised the significance of the facilitation team's first-time DT leadership, underscoring the importance of the process outline for a successful workshop.

> The first day has a lot of repetitive exercises. You do something and then do the same thing, just in a different way. My mind is going to the semantic analysis... On the first day, the participants also asked me blatantly why we were doing this again. It was quite a struggle for me sometimes to come up with why they were doing this again. I did figure out what to tell them, and then they understood. There are fine nuances and differences between the steps, but if you have to cut some time, it is fine to skip them.

The social inclusion and representation of PWDs in the design teams – as mentioned, a 50/50 split between PWDs and nondisabled participants in each group – significantly boosted insights of the core user the problem-solving revolved around. The subject matter is often just included as interview subjects during DT. Yolisa, a deaf choreographer and one of the interviewed stakeholders in the human-centred design process, noted the high representation of PWDs in the core design teams after their onlooker experience at the workshop: "You could see the deaf and the blind, the various disabilities. It is so important". Luyanda echoed this view but noted: "We can double up the number of PWDs."

Having a significant proportion of PWDs included in the design teams also brought forward the more radical idea that the subject-interviewing of DT becomes less necessary when

the core user is already in the room. However, Ben, the only participant holding this view, admits the stakeholder interviews offered a "zoom[ed]-out" perspective on the problems experienced by the user. Contrary to Ben's view, other participants [7] welcomed the fact that there were other PWDs and a restaurant owner present to speak to about matters of accessibility in restaurants "because they came with their own opinions and views which were outside of our group". However, Ben sums up the value of the high representation of PWDs in the design teams:

> The people in the workshop were the experts because they were living it. The stakeholders we interviewed guided a little and had a general view, so they had more of a zoom-out [sic] perspective, but they were not necessarily pivotal to the workshop because we had many of the disabilities represented there. All it did was speed up the process and the answer that we got to that, we would have got there without them.

An unexpected finding was that the inclusion of nondisabled people further broadened the group's perspective on disability, shifting the conversation beyond the disabilities of the PWDs on each team. This deepened view on disability prompted the consideration of a wider range of accessibility issues, particularly concerning restaurants. Sam's pre-workshop interview already highlighted this perspective, and it also resonated with PWDs interacting with others with different disabilities in the DT environment:

> Sometimes, it does require this contribution from people outside who are not so close to the issue so that we can see the wood from the trees. "It is my problem," and that solution gets honed. It is a wheelchair problem, or it is a blind problem, and it becomes

a little too emotional.

4.1.2 Diversity

Against the sociopolitical backdrop marked by formal racial exclusion in South Africa, it is noteworthy that the event participants were representative, emphasising the need for diverse inclusion in terms of disability, race, age, sexual orientation, and professional background. Sam reflects on the emotionally charged appreciation this diversity evoked, ultimately fostering a larger sense of equality among participants:

> I looked at the picture when you shared the picture. It is diverse in every conceivable way… There were moments at the beginning of the day where I almost cried, and I can feel myself almost tearing up now thinking about it. It was such a reflection of where we […] can be as a human race. It was all ethnicities we had access to. It does not have to be that we need X per cent of coloured people and X per cent… everyone was there. Everyone sees each other as equals. Male, female, age groups were included. Colour was included. Disability was included. Animals were included, except for the cats.

The diversity of experiences, including race, gender, and ability, deepened participants' understanding of inclusion, allowing for richer discussions on how to address accessibility challenges in ways that resonate across different groups. The substantial 50% representation of PWDs fostered goodwill among the participants and contributed towards a more inclusive solution. In the workshop, PWDs and nondisabled participants collaborated as equals, with PWDs actively contributing to the solution to enhance the accessibility of information in the South African restaurant industry. The teams self-organised tasks by capabilities, not

impairments, which reflected the importance of diversity and the various capabilities of all participants. Participants approached this pragmatically and reflexively, primarily based on comments made during initial conversations and exercises, such as drawing up a team charter where everybody exposed some of their needs, interests, and skills. Anna described some of the challenges between PWDs and the nondisabled, speaking to the importance of taking each person's capacity and capabilities into account, which reflects most participants' [10] sentiments:

> It depends on what the team is supposed to do because if the team needs to build a model using paper and scissors, you are going to have a lot of difficulties when you have a person with a motor disability. Whereas, if you need to brainstorm ideas in a team being in a wheelchair or having motor disabilities but no higher functions affected, it will not be a problem.

There was consensus among all workshop participants [13] that education on disability-related matters – such as human interaction, accessibility issues, and lived experiences – is seen as a necessary measure to disprove the "incapable" narrative while fostering greater cohesion between PWDs and nondisabled people during collaboration. Most of the disabled participants [4] expressed previous experiences where people second-guessed their capabilities. Most nondisabled participants [6], who also exhibited a strong self-awareness throughout the interviews and workshop, note that although there is no doubt that everybody has gifts to contribute to society, they have unconscious biases about PWDs' capabilities and "malicious assumptions, like assuming that because they can't do this, they also can't do other things". Charlene's experience of being underestimated brings a personalised view of some of the

challenges that influenced PWDs' perception of how nondisabled people might operate in a collaborative environment – and a solid determination to disprove incorrect perceptions:

> For some reason, people think disabled people do not have the same capabilities; they are not that clever and are dumb. For some reason, if you have a hearing disability, they think you cannot hear, you cannot read – automatically, everything is wrong with you… I have seen it a lot in the working environment, and they think that you cannot live up to the standard they want you to, and I am proving them wrong.

As discussed in the previous section of this chapter, many accommodations required extra time. However, with individualised mitigations by people without sensory disabilities, and the facilitation team's dynamic and often reactive adjustments, all the participants with sensory disabilities reported they felt like meaningful contributors in the collaborative process. Luyanda described how his impairment influences his capacity to collaborate, and by being upfront about any limitations, his team was able to adapt and have him partake as fully as possible, with only minor adaptations and accommodations:

> Even though I am going to try to be on par and be almost the same as my counterparts who are not living with any disabilities, the fact is: I am going to be a bit delayed in terms of what I might need to do.

In the absence of predefined roles in DT as a collaborative process, natural leaders emerged during the workshop. Leadership and other roles also took shape based on the different tasks prompted by the DT process, like writing, speaking, posting notes on sheets for each activity, and reading or describing posts in notes for people who cannot see. In the Green Team, Sam

noted how his team members worked not just on the task but also on helping one another, and these tasks spawned from the awareness and sensitivity of the respective team members and their capacity and capabilities. To the contrary, and due to a lack of clear leadership in the Yellow Team, participants were at times described as inefficient and disorganised, but even without clear leadership, they followed the DT process under the guidance of the facilitator. In the end, they managed to produce a tangible idea, albeit basic. Sam, one of the apparent leader figures in the Green Team, captured how mutual support, trust, and sensitivity shaped the effective collaboration of his team:

> It was the people that overcame the barriers. I had blind people at the table and someone in a wheelchair, and we needed to put things up. We were sensitive enough to fill those roles. There was sensitivity and trust, and there was trust: It was OK for me to take on the [leadership] role, and for them [the rest of the team], it was OK for me to give Sam permission to take on this role.

Many participants [7] experienced a sense of energy and positivity towards the end of the strenuous and time-consuming workshop, primarily because it aimed to improve access to information on restaurants' accessibility features, which resonated strongly with at least half of the participants, creating a sense of purpose. Busisiwe pointed out that inclusion in the collaboration process, in general, contributes towards this purpose and that because it was not limited to PWDs, it was also relatable to her as a nondisabled individual, saying: "I'm not necessarily the person who will be the loudest in the room, so I get easily forgotten by people."

The workshop's focus on a specific and meaningful problem reinforced the belief that the participants [11] contributed to making the world a better place. In this regard, Sam felt it "was energising, it is like when you are tidying up, and putting things into place when you can

see… why that feels great". Despite the complexity of the accessibility issue, the participants [10] expressed optimism and motivation both before and after the workshop because although addressing accessibility is a substantial task, it can be accomplished through collaborative and incremental efforts. In Ben's words: "[Accessibility] is not going to be solved overnight, but… how do you eat the elephant? Bite by bite."

Collaboration and the support team members offered one another were vital in dealing with accessibility issues, as well as fostering positivity, optimism, and motivation to and for most workshop participants [11]. Charl said: "It is easy to get motivated when teammates support you." Working towards a practical goal allowed PWDs to share their lived experiences without getting too emotional, and a nondisabled participant echoed this, saying: "It was useful that it was not medical", as it brought some objectivity. This objectivity was also bolstered by including a diverse range of participants in the collaboration, most of whom were unknown to one another. This sense of objectivity allowed participants to interrogate the issues from all sides, which disabled participants [6] also welcomed. Elena, who has only 5% sight, found the sharing experience to be a highlight, and most disabled participants agreed:

> Sometimes, you work with people, you are friends with people, and they are so close to you that they get emotional whenever something happens. So it was nice to speak to people who do not get too emotional when you share your experience but come up with practical solutions and not emotional responses to things.

Relatability was explored throughout the participant interviews, which revealed a deepened understanding of exclusion and the need for social inclusion across various structures, such as racial and gender discrimination. Busisiwe, a nondisabled black woman, highlighted her struggles: "I feel like, as a woman, you have to struggle ten times more." Opinions varied on

nondisabled individuals' ability to relate. Sam acknowledged his outsider status as a nondisabled person who does not understand the nuance of living with a disability, while Elena, a PWD, experienced that "people who do not have disabilities feel the impact more than the person with the disability". Nondisabled participants' [6] curiosity and efforts to understand PWDs' experiences are evident, and, in addition, the diverse representation of PWDs in the group helped to boost a sense of belonging, trust, and curiosity from PWDs to learn about other disabilities. Most participants' [10] motivation for the project stemmed from its potential impact to enhance the accessibility of information in the South African restaurant industry, which ultimately could lead to the improved social inclusion of PWDs, as Elena says: "If I can assist so the next person does not have to go through the same struggles, I think it does have a long-lasting impact on PWDs."

The DT workshop emerged as a catalyst for meaningful connections and bridge-building among participants [9]. The experience left a lasting sense of optimism, driven by the belief that shared knowledge about one another's diverse realities would pave the way for future II. Charl captured the overwhelmingly positive sentiment among participants [12] towards the unique collaborative effort between PWDs and nondisabled people and the meaningful impact and sense of purpose it provided its diverse range of participants: "It [the DT workshop] made me feel really good. It felt meaningful, even though I know our solution might go nowhere."

The DT process promoted equality, as participants shared their different experiences during the collaboration process, fostering empathy and relatability with one another and creating a sense of unity. Abby reflected on this resonance participants experienced: "When we got to share experiences, everyone had similar experiences." Including PWDs and nondisabled individuals in each team provided a nuanced understanding of individual priorities and capabilities, breaking down preconceived barriers between PWDs and nondisabled people

during the DT process and the collaboration in general. Bertie described this as an eye-opener, noting: "[I realised] how different their [PWDs'] needs are within that community." The workshop challenged stereotypes, revealing the diversity within the disabled community, and emphasised the importance of acknowledging each person's unique needs and talents. As Sam noted: "We have the same problems and challenges." The collaborative nature of the DT process ensured that every voice contributed to a focused solution that garnered collective support, or as Abby phrased it: "We would go and write things down [during ideation] on our own, and then we would come together and put all of those together."

4.2 Resilience

The second of three overarching themes unearthed in this study is resilience, referring to toughness or the ability to recover from challenges. This theme has been subdivided into three categories: (1) attitude, which can be seen as a settled way of thinking (2) normalcy, or a state of being typical or normal; and (3) vulnerability, which entails being exposed physically or emotionally. In this case, the resilience displayed by participants in fostering inclusive attitudes was closely tied to their desire for normalcy, reinforcing the idea that true inclusion is not about exceptionality but equal treatment and understanding. Each of these categories is further subdivided into subthemes:

- First, under attitude, the author delves into (1) indifference, (2) othering, (3) self-othering, (4) appreciation, (5) awareness, (6) allyship, and (7) pride.
- Secondly, (1) avoidance, (2) lack of interaction, and (3) exclusion are explored under normalcy as a theme; and

- finally, under vulnerability, the codes investigated include (1) trust, (2) isolation, (3) time, (4) distraction, (5) curiosity, (6) surprise, and (7) mental health.

4.2.1 Attitude

Participants [9] exhibited optimism about the potential positive and inclusive attitudes towards cultivating a more accessible and socially inclusive environment. This optimism, or the belief of future success, became evident during one of the workshop's stakeholder interviews with Nikki, a person living with cerebral palsy, which underscored the importance of interpersonal dynamics in creating accessibility. Busisiwe realised: "It is about people and how people treat people." The workshop highlighted the value of embracing diverse lived experiences, with an emphasis on sensitivity and openness to different voices, as Charl noted:

> It just fuelled the importance of my sensitivity towards things like diversity and inclusion, and why that is important because I think part of what I have learnt is how important a lived experience is in finding a solution to something.

Moreover, there was a general understanding that not all problems can be solved. However, there was a positive attitude towards the potential of working together – in this case, PWDs and nondisabled people collaborating to solve access to information on accessibility features, as noted by Sam: "We cannot solve all the problems, but we can work on them together."

Although there was a dominant perspective [14] that PWDs and nondisabled people should collaborate, it was noted that a negative attitude towards disability could stifle collaboration significantly, with this negative attitude ultimately eliminating the will to engage with one another. According to Elena, one of the only reasons not to foster collaboration between PWDs and nondisabled people is the latter's negative attitudes towards PWDs and disability as a whole:

> PWDs and nondisabled people should not work together if you know you are in a situation where the nondisabled person just does not give a damn about disabilities because you do get those people who just do not understand disabilities, who do not believe in disabilities, and think it is just a weakness […], but you get those people who just believe disabled people should just stay at home; they should not be integrated into society.

In their post-workshop reflections, nondisabled participants [5] displayed an indifferent attitude, or lack of concern or interest, regarding collaborating with PWDs. The focus was not on whether they collaborated with PWDs but on discovering each participant's unique capabilities, regardless of disability. Sam articulated this perspective, noting that his experience working with a PWD was no different from collaborating with a nondisabled person, underscoring the importance of contribution and competency in a project. The overarching sentiment was that a person's (dis)ability did not impact collaboration – it "comes down to a contribution and competency". In addition, before the workshop, most participants [10] expressed an initial attitude of indifference about the event, with participants mostly being unsure about what a DT workshop entails, which contributed to a heightened open-mindedness among participants, as expressed by Anna, who mentioned "going with the flow" and enjoying the unfolding experience.

The topic of othering, or treating someone as if they are different, became apparent in PWDs' and nondisabled participants' narratives, highlighting the unintentional barriers to social inclusion created by societal structures. Abby's insights laid bare the continual planning and considerations PWDs face, highlighting the stark contrast in the experiences of PWDs and nondisabled individuals: "It was just how we as PWDs have to plan when you go somewhere or research places when you go somewhere." Klara stressed why it is essential to recognise and

value each person's contribution, irrespective of their abilities, fostering engagement and mitigating the effects of othering: "Part of what is going to be a challenge is to let people believe, whether they are able-bodied (sic) or disabled, that they do have value to offer." Ben's reflections underscored the existing "us and them" divide, emphasising the urgency of collaboration and equal social inclusion: "People that are ostracised just want equal rights... I would not go as far as saying equal rights... equal inclusion would be a better term. And that is what we want."

It also emerged [through six participants' insights] that when people are dismissive in the collaboration process, othering deepens, and when the approach of building on ideas instead of rejecting them is adopted – a foundational underpinning in DT – inclusion is fostered. As Klara described it:

> If you are on the receiving end of that experience, where you have something that's different about you, it becomes so part of you where your voice isn't necessarily heard or appreciated that you get out of that mind space to go into a space where you feel comfortable to share where you know your contributions will be valued.

In delving into participants' attitudes, a complex narrative emerged, testing the conventional idea that nondisabled people are the only agents of othering. Charlene, a participant who is hard of hearing, brought attention to the concept of self-othering, suggesting that PWDs may unwittingly contribute to their own isolation. Her perspective underscored the necessity of a holistic approach that addresses perceptions and actions from both sides. She noted the significance of breaking down barriers and promoting collaboration between PWDs and the nondisabled community to foster inclusion:

> To be honest, when I was studying, that was one of my biggest challenges because I chose to do assignments on my own. Now that I am in the working environment, I need to work in teams. There are a lot of advantages where they can learn from me about disability, and for them to change their perceptions.

Engaging in stakeholder interviews during the DT workshop evoked a profound appreciation or positive recognition among PWDs [5] for the opportunity to delve into the diverse experiences of their peers. Luyanda, reflecting on his role as an interviewer, highlighted the positive effect of understanding issues from other PWDs' point of view. This experience heightened awareness of the complex challenges within the disabled community. Participants [17] also expressed collective gratitude for the workshop's dynamic and engaging nature. Elena particularly underscored how she experienced the event from different, more traditional workshop formats, describing it as enjoyable and energising. Both Elena and Cornelius expressed their appreciation for how this event was dynamic and did not bore them, and this was a sentiment shared by most participants. As Elena quipped: "The reality exceeded my expectations because sometimes when you hear about workshops, you think, ach, it is going to be very boring. It felt more like a fun activity to do... I was tired, but I was not exhausted."

The DT workshop boosted awareness, or knowledge of disability, among both PWDs and nondisabled people, showing the transformative impact of understanding the needs of PWDs and providing assistance, especially during collaboration. This awareness, as Luyanda described after interviewing a stakeholder, transcended physical limitations and reduced the perceived disabling effects of disabilities. Both groups and their participants continuously discussed the importance of awareness in creating greater accessibility, and one stakeholder's words deepened a mutual understanding among both the nondisabled and PWDs, as Luyanda reported: "When she said... when you have staff members who are not sensitised, the way they

treat you, it will be disabling more than the disability itself." This poignant comment underscored the importance of a supportive structure, indicating that a positive environment can mitigate the challenges associated with the social inclusion of PWDs. Furthermore, nondisabled participants demonstrated a continual awareness of PWDs' needs, actively seeking ways to offer assistance. Luyanda commented on nondisabled participants' awareness and how it increased during the workshop. It positively influenced PWDs' [6] perception, as they (the nondisabled) exhibited disability-positive allyship, observing the power of their actions and responding to needs:

> I have learned that they [nondisabled people] take note... They would be aware of ways that can help. I am specifically speaking about that workshop, and if I have to give another example, I did not know where the coffee station is. And then somebody just thought... this man might need something to drink.

The workshop served as an eye-opener for most PWDs, demonstrating that nondisabled participants, especially those who willingly joined the initiative, are genuinely invested in promoting accessibility and understanding the lived experiences of PWDs. This realisation evoked gratitude among PWDs, as Abby acknowledged that a broader community of allies is actively working towards creating a better, more socially inclusive environment. It challenged the perception that the obstacles faced by PWDs are exclusively their own, highlighting a shared commitment:

> There are more people there who are willing to listen, are open-minded, and are prepared to work with you to create better spaces. Not everybody has this "ag,

> shame" thing going on, and then not all able-bodied (sic) people see PWDs as different.

This growing allyship from nondisabled participants not only empowered PWDs but also led to more collaborative and inclusive problem-solving, where the voices of all participants were valued and respected. Participants [7] experienced a profound sense of pride after participating in the workshop; or as Luyanda phrased it:

> It made me proud to participate in such an exercise. I felt very proud to say when people want to come up with a solution to our challenges. In many cases, they do not involve us, and then, in this case, we were included.

The overall positive attitude of being included in the collaborative process by all the PWDs at the workshop highlighted the importance of active inclusion in innovation to address PWD-specific challenges. The concrete outcomes of the DT process boosted this sense of pride. The facilitator, leading the process for the first time, also echoed this:

> It would have been an improvement if there had been a facilitator who was [more] experienced in DT. But still, for what we are and what we achieved, I am very proud**.**

4.2.2 Normalcy

After the workshop, nondisabled participants [7] understood that PWDs want to be treated like everyone else. Cornelius, the lead facilitator, encapsulates this general sentiment by saying it "opened my own eyes to how PWDs live and how they also just want to be normal people, and

we should treat them like normal people". Being part of the DT workshop made PWDs feel more "normal", shifting from being the ones observed to becoming problem-solvers. Elena, a PWD, shared that being involved in interviews from "the other side" felt good. Furthermore, collaboration between PWDs and nondisabled people is crucial for making accessibility and, ultimately, social inclusion a societal norm. Abby, who works to bridge gaps between PWDs and nondisabled individuals, remarked that it is necessary for participants to understand that strategic collaboration is necessary to move towards normalcy:

> If we are always going to have these little silos and these little groups, we will always have conversations about accessibility and inclusion because it just means that we never come together and make accessible spaces, inclusive spaces a norm.

The findings indicate that most participants [15] had a positive experience during the two-day workshop, especially when interacting with PWDs. However, some nondisabled participants, with a lack of prior interactions with PWDs, admitted feeling awkward or unsure at times. Bertie, one of them, explained: "There have been those sorts of micro-moments in between where you are not sure what to say. Not sure whether you should – if someone in a wheelchair, for example – you should offer to push them." This suggests that not knowing when to help caused moments of uncertainty or discomfort. Charlene, who is hard of hearing, highlighted the importance of having a variety of PWDs involved in a collaborative process: "I think in ways I have never seen before... I am not blind, and I am not in a wheelchair, but you get challenged to think that way", illuminating the understanding among PWDs [6] that they, similar to the nondisabled participants, had a lack of interaction with other PWDs. Still, there was a positive change in attitude across the full range of participants after the workshop, especially because they were working towards the same goal, as Charl summarised:

> In my everyday work, I do not make a lot of contact with PWDs, so it was cool to do that through this workshop, and… it was also really cool to work with them [PWDs] on the problem and to come up with a viable solution.

According to participants [5], a lack of awareness about disability can act as a significant barrier to collaboration, particularly when nondisabled individuals demonstrate a disregard for understanding the needs of PWDs. Their indifferent lack of awareness is likely to result in avoidance on the part of PWDs. Abby, sharing insights into the repercussions for social inclusion in this situation, said that what she "discovered, especially now, post-COVID-19... I feel more anxious going to spaces and not knowing whether or not it is accessible". Her reflections shed light on the heightened anxiety experienced by PWDs [5], due to the lack of awareness regarding accessibility to places like restaurants. Abby further explains her frustration, especially in new restaurants opening around Cape Town, where accessibility is often overlooked. Describing the challenges of having to call in advance to enquire about accessibility, she explains: "They would say that their spaces are accessible, and then I would get there, and there will be two or three steps just to get inside the place." This struggle extends to outdoor activities, where she must always plan in advance, due to a lack of accessibility. Abby's account underscores the link between a lack of awareness, avoidant behaviours by PWDs, and the tangible challenges faced by PWDs in accessing various spaces and activities, which aligns with other disabled participants' experiences [4] in their different complexities.

During this study, it was found that introversion and extroversion, or a willingness and aptitude to express yourself, played a significant role in exclusion, more so than disabilities themselves. A "quiet" exclusion was illustrated in the Yellow Team, where a nondisabled participant was perceived as quiet, potentially leading to her being considered uninterested or

excluded. According to Klara, an onlooker: “Maybe in a different group, the dynamic would have been different, but like if we are talking about this specific set of people, then I do not think so... I think we dropped the ball a little.” There were also instances where stronger leaders [3] unintentionally directed and dominated conversations, inadvertently excluding quieter voices [3]. Anna, a participant in the Green Team, shared her experience and stressed the need for heightened awareness to ensure inclusivity to forge clearer turn-taking in conversation, which the less vocal participants mostly agreed with.

> Between Sam and Charl, they called the shots... Especially towards the end, on the second day, when we had to build the prototype. In my view, about 70% of it Sam did by himself, and the rest were cheering him on.

4.2.3 Vulnerability

Embarking on a discovery of vulnerability within the disability realm, [14] participants noted the transformative influence of open communication and a receptive attitude. Elena noted that the workshop’s introductory and empathise phase gave her a unique opportunity to voice her specific needs, particularly related to her visual impairment. Elena’s experience highlights the essential role of a receptive attitude in fostering an environment where PWDs can make themselves vulnerable, subsequently contributing to a more inclusive workshop. By being upfront about her needs as a PWD, this disclosure triggered a chain reaction of support from her team members, highlighting a collective willingness to actively listen and accommodate during collaboration:

> I think it came from just having a conversation with the rest of my group members. They were open to hearing what I needed and willing to assist as well, which made our group work a lot better.

Trust was a key factor for effective collaboration in the DT process. A continual contributor to trust-building surfaced prominently during the workshop: assistance played a pivotal role in social and professional trust-building. Participants [4] noted the impact of human interaction, both in collaboration as well as in the breaks or waiting periods. Trust was forged through the actions of nondisabled people and PWDs who have specific capacities, such as being sighted and willingly engaging in acts of assistance, whether by fetching someone food or explaining visual information to a blind participant. Nikki, a stakeholder with cerebral palsy, underscored how actions such as helping with making coffee or guiding a blind person play a pivotal role in fostering trust and a sense of community within the group: “I think... outside of the actual work... the way people helped one another for coffee or leading the blind to the bathrooms or eating things with someone else – that could have helped build trust and community within the group.”

In addition, a crucial element that served as a precursor to the DT process surfaced as a foundational contributor to trust: the creation of a team charter. Six participants echoed this sentiment. Elena stressed the importance of dedicating ample time to this activity due to its foundational role in shaping their team’s collaborative dynamics in the workshop. Busisiwe also noted the value of this social contract exercise in setting the tone for the workshop and showcasing how this tool is valid for establishing a solid working rapport between PWDs and their nondisabled counterparts:

> With the team charter, we were all able to say what we wanted, what we liked, what we did not like, and people respecting those things without thinking they are ridiculous or, you know, making comments about it, is like, OK, you like to doodle, that is fine, you told us now. You are looking away… that is OK; it is not you who is ignoring everyone. It is just you thinking.

The co-learning environment fostered by the DT process further contributed to trust as PWDs and nondisabled participants engaged and collaborated with each other during the workshop. In some cases [4], PWDs encountered people with other disabilities and needs for the first time, which significantly deepened their learning experience. As Luyanda stated: "People living with different disabilities were brought together and... people were there to learn from each other. It is one of the things that contributed to the unity of the people." Furthermore, a shared goal of finding a sustainable way to gather information about restaurants' accessibility features emerged, which was driven by the DT process and created a sense of trust and vulnerability between participants. This was particularly evident during the "empathise" phase, in which all participants had to reach a common understanding of words or issues, exposing people's views on accessibility issues, which ultimately exposed vulnerability. As Tanya, the interpreter, noted, the event motivated and drove willing vulnerability from beginning to end:

> I think there was not any pretence... [it was] as in your stock standard staff meeting or a work environment. The work dictates the response, and in this case, it was the work of a group of people who had a shared goal and wanted to achieve something with that shared goal.

Participants [10] also noted honesty, transparency, and a good sense of humour among team members, which played a pivotal role in fostering trust; Bertie noticed this in the Yellow Team:

> I think that [humour] helped that we could not just work together but laugh together about our interactions and experiences. It made everyone more comfortable and at ease, which made it easier to trust each other.

Trust was instrumental in shaping the collaborative environment in the workshop and also finding a focal point during interviewing, which formed part of DT's "empathise" and "testing" phases. Theunis, the videographer, offered insights into the dynamics of these sessions, highlighting how allocating roles contributed towards trust-building, even though teams designated the roles of interviewer, observers, and note-takers themselves. Dividing groups and allocating distinct responsibilities to each team member cultivated a shared commitment. Theunis highlighted the effectiveness of this structured approach and how the participants [12] seamlessly adopted their respective roles before the 15-minute interviews: "That was quite interesting because there…everyone had a role to play. Once they had their set roles, everyone knew what to do." The clarity surrounding responsibilities – which also included interpreting, a unique aspect of the workshop – created a cohesive and engaged atmosphere. Although participants were exhausted after investing their focussed attention on the task at hand, this exhaustion was coupled with a shared determination to accomplish tasks, exemplifying the trust established through their intensive collaboration and their well-defined roles. The exercise, in which "everyone sparked and came alive", was characterised by structured engagement, and emerged as a cornerstone in fostering trust within the workshop.

In examining isolation through the lens of vulnerability, the experiences of Justin, who was wholly reliant on SASL and a volunteer interpreter, shed light on the pivotal role

communication played in fostering trust and mitigating feelings of isolation. He reflected on the initial steps of introducing and understanding each other, underscoring the importance of sharing experiences from their lives. For Justin, the banter and communicative interactions between team members played a crucial role in cultivating a broader sense of trust: “People are funny. They made jokes, and they were crazy… we all were individuals who trusted each other.” Moreover, providing suitable communication methods and ensuring Justin’s inclusion became paramount in diminishing his sense of isolation. A diverse range of communication methods, such as sign-language interpretations, lipreading, technological aids like WhatsApp or writing, and printed explanations of the programme enhanced his feeling of safety and trust within the group, significantly reducing his overall sense of isolation and boosting his confidence in the process:

> When I finished the workshop, I went, thought about it, and had ideas because it was different people and you do not think the same... I felt good because I could know them and understand them better. It was not bad, it was really good, now I think a lot about that. I am not just alone at home by myself, and that is very important. So now I am... not just isolated. And it changed my level of confidence.

The relationship between vulnerability and time, or period of engagement, in the DT process unveils a central theme. Participants [13] unanimously grappled with the tiring nature of the workshop, intensified by time pressure and the intellectual intensity of the collaboration. Proposing practical modifications, such as shorter daily sessions or additional reflection periods, Justin advocated for a more sustainable approach to lessen the physical and mental strain. Tanya, the SASL interpreter, suggested that the DT process needs to “accommodate three interpreters that will rotate, which will make it easier for the translator because…. that is

a lot physically to do two days in a row". Anna expressed some relief in being able to relate or have a sense of connectionwith the rest of the participants in this regard and showed the significance of relatability: "I must say that made me feel not so bad by the end of the first day when everybody said 'I felt tired or started off tired, and now I feel better'. We all just went through dips and ups."

It further emerged that trust was built over time, but primarily got cultivated as the many different people with different needs, capabilities, and outlooks united around the purpose of creating a world where accessibility features for restaurants are more commonly available. Charl, as a nondisabled participant, described how deliberate efforts to socially include people throughout the collaborative process was fuelled by the team's motivation to improve accessibility in the restaurant industry:

> Because we continually had to involve and include the two visually impaired participants, trust was almost continually cultivated... that created trust. Luyanda, especially, there were times where he was very quiet, but then we just had to prod harder, and I think because we had to do that every step of the way, trust was built and solidified after every step; it was just sort of a gradual thing from beginning to end.

A cornerstone in establishing trust within the DT workshop was the deliberate effort to cultivate interpersonal connections by getting to know one another, even if it meant investing substantial time. In the lead-up to the workshop, in an informal discussion, a DT consultant recommended allocating more time to these interactions, due to the various physical vulnerabilities present throughout the workshop. Lead facilitator Cornelius reflected on the intentional design of the process, noting early activities such as team-charter discussions and icebreakers that compelled participants to engage with one another. The process was strategically structured to promote

collaboration and interaction from the outset, and Cornelius highlighted that collaborative success surpassed what could have been attained through individual work:

> One team took way longer to get to know each other, and they went off track and lost a bit of time because they wanted to chat more about each other's lives, but it was those types of exercises, in the beginning [that fostered trust]. The process is designed so that people are forced to engage with each other from the beginning.

All co-designing participants [12] harboured a curiosity or strong interest about the either unfamiliar or unique DT workshop, forming an exceptionally open-minded collective during the event, a trait interlaced with vulnerability and trust. Abby's reflections provided valuable insights into the motivating force behind this curiosity, driving active and engaged participation. She looked forward to intellectual stimulation, idea unpacking, and rich conversations, acknowledging the group's diversity of experiences and backgrounds. The shared curiosity influenced the participants' engagement level and played a crucial role in establishing an inclusive and collaborative atmosphere:

> It stood out that everybody had the opportunity to share their experiences, and they were received with an open mind. I thought there was a great sense of care in the space, a sense of being interested in everybody in this space and everybody's experiences and journeys, and a lot of conversation.

The enigmatic nature of the DT process and the unique set of workshop participants introduced a compelling element of surprise, with this unexpected reaction fostering an overwhelmingly positive environment characterised by open-mindedness and warmth. Reflexive post-workshop

conversations highlighted the initial uncertainty about this collaborative effort, cultivating initial anxiety among participants, with positive surprises ultimately contributing to a sense of relief and a positive workshop experience. Klara, confronting social anxiety, articulated her anticipatory stress and anxiety about potential negative scenarios. However, the actual workshop experience contradicted these fears, revealing a welcoming, lively group, and capable of forming connections despite communication challenges: “It was way less stressful than I thought it would be. In fact, it was a lovely experience.” Charlene also shared her positive surprise at the diversity and the practical accommodation of various needs, which captures most PWDs in the workshop’s [7] sentiments:

> It was not my first time in a room full of people with different realities and different disabilities, but it was a wide variety; I did not know what to expect at all. I expected to find a solution, and in my mind, there was a doubt that we would find a solution… with all the different disabilities, and we did.

The workshop highlighted the link between mental health and vulnerability, shedding light on the profound impact of trauma not only on PWDs but also on those without. During the DT workshop and individual interviews, participants bared their souls, sharing intimate experiences of their realities. At a later stage in the workshop, Ben shared the story of the brutal assault that led to his paralysis. The emotional toll of these revelations exposed the deep connections formed during the workshop. For Ben, the workshop became a platform not just for problem-solving but also for mental-health advocacy. Motivated to enhance the well-being of PWDs, and heightening his sense of purpose, Ben emphasised the importance of addressing accessibility issues:

> It goes back to your mental health... You just want to enjoy life. You just want the same dreams as everyone else. We are already having to deal with so much with our disability. Why should we have to deal with this [a lack of accessibility]?

4.3 Synergy

This section explores the third and final overarching theme contributing to this study's findings: synergy, which refers to the collective impact of things working together. In this case, synergy comprises collaboration, or PWDs and nondisabled people working together, and communication, which includes the effective exchange or expression of ideas and emotions, in the DT process. These findings highlight the profound effect of creating an accessible space for improved collaboration and the importance of clear communication and relationship-building.

Under the first category related to synergy as a theme, topics like encounters with disabilities, familiarity, and lived experiences of PWDs guide the categorisation of findings. Flexibility is shown to be a necessary component of collaboration between PWDs and nondisabled people, while familiarity with disabilities contributes towards productive collaboration.

The second category, communication, encompasses findings around three codes: discomfort, education and lack of awareness. Here, discomfort and a lack of awareness underscore the need for ongoing education and empathy in connection with disability.

4.3.1 Collaboration

Collaboration within the DT workshop proved transformative, bridging the gap between PWDs and nondisabled participants. Ben, who is paralysed, identified the common purpose of greater accessibility for PWDs as the binding force of his well-represented group, stating: “It is human nature that when people have a common trait to a common purpose, it forms bonds.” Creating an accessible collaboration space for participants, encompassing physical and resource considerations, brought attention to the challenges faced. In addition, how the teams connected and related to one another was essential in translating ideas into actionable solutions, which is why Charlene highlighted the impact of relationship-building: “And I think that is why we got the solution that we did because of the teamwork and relationship-building.” Cornelius underscored the rarity of such high engagement, stating: “This workshop, even though it was only with 12 people, shows that this level of engagement is possible.” Another essential ingredient for an inclusive, collaborative process that emerged was for the engagement levels of the different participants to be fair. Luyanda described a “fair level of collaboration” between PWDs and nondisabled people:

> There was a high level of participation from both parties, even though... the people who are not living with disabilities might have thought that they had to do more... where they had to read their own sticky notes [post-its] and read my own and write and read my own as well.

The findings further revealed that effective collaboration hinges on establishing an inclusive and supportive environment. Klara’s foresight in anticipating challenges between PWDs and nondisabled team members highlighted the importance of clear communication, openness to

diverse perspectives, and creating a space where everyone feels valued and comfortable without being dismissed or discouraged – in other words, an optimal team dynamic. Elena's early warning about nondisabled individuals making decisions for PWDs emerged as a critical barrier to collaboration, which is similarly perceived by six other participants. As the workshop progressed, the receptivity of nondisabled participants to listen and consult became a driving force for the project's success.

Participants [8] agreed that the family-sized teams at the event were ideal and noted the practicality of small groups, ensuring that every voice contributed meaningfully. Klara remarked that "[y]ou can have 10 or 20 groups, as long as they are between six and eight people". Small teams enabled more meaningful engagement, as each participant, regardless of ability, had the opportunity to voice their perspectives and contribute actively, ensuring that no one was sidelined in the collaboration process. Klara encapsulates this reasoning:

> If a group becomes too big, it gives people an opportunity to check out of it a little bit, like if there are people who are naturally more prone to taking over, and it allows them to do that and people to allow that to happen. You would have more people in the group, but fewer voices are being heard.

Participants with visual impairments [2] experienced navigating the visually inclined landscape of DT during the workshop, showcasing remarkable adaptability and a collaborative spirit. Luyanda's acceptance of having teammates read information aloud demonstrated a collective understanding that compromises were essential given the limited timeframe: "I did not feel that bad because I could fully understand that. You know, this is due to the constraint of time..." This flexibility was underscored by the explicit consent of visually impaired participants,

endorsing the collaborative approach of DT, as the team reached an internal agreement among themselves during the introductory phase of the workshop.

The event's success can be attributed to its departure from conventional workshop formats. The dynamic and creativity-led collaborative DT process ignited enthusiasm among participants, as highlighted by Sam: "When people say workshop, you expect a whiteboard and facilitated conversation and discussion." The infusion of unconventional elements, from colourful pens to engaging banter, facilitated an immediate lowering of barriers, fostering an environment where individuals felt at ease, enabling open and positive contributions to the collaborative effort. Despite time constraints being initially perceived as a challenge, Elena's reflection uncovered an unexpected positive aspect – the constraints served as indicators of the group's high engagement level: "I know from someone who has done workshops that we do need times, but I feel like sometimes the time restrictions were just a mood killer...".

Including nondisabled participants and PWDs in the design teams, especially those with established connections to the disability community, added strong ally motivation and purpose to the workshop. Charl's long-standing commitment, rooted in a 20-year friendship with a visually impaired individual, underscored a broader sense of dedication to contribute meaningfully to accessibility-focussed research:

> I have a visually impaired friend, and we have been friends for 20 years. This [accessibility] has always been something that I have been passionate about. It comes from a personal place, a personal connection trying to contribute to research about this.

Embedding the core users [PWDs] of the final solution – the one design teams were aiming to create – into the DT process emerged as a key facilitator in the improved understanding of

PWDs and accessibility-related issues in a collaborative environment, which Klara asserted when saying that "you do not know what you do not know". A recurrent theme showed participants [4] the importance of sustained encounters with disabilities to foster II to address the intricate challenges faced by PWDs and, even more so, people with different disabilities. Post-workshop insights revealed a shared recognition among both nondisabled and disabled participants regarding the significance of prolonged encounters with various disabilities, especially after the two-day collaboration. In a personal revelation, Ben acknowledged the DT workshop's role in expanding his comprehension of accessibility issues outside the scope of his own disability:

> The only way able-bodied people (sic) are going to be able to understand the nuances of PWDs, is if they were exposed to it because it is the type of thing that comes out in conversation, and it comes out through spending time with them. It is not like a 10-point checklist. It comes out naturally.

Participants' familiarity with one another and their disability emerged as pivotal factors influencing trust between PWDs and nondisabled team members, and contributed towards the overall effectiveness of the design teams. The Green Team, comprising a mix of individuals familiar and unfamiliar with one another, showcased a higher level of trust and cohesiveness than the Yellow Team, in which nondisabled participants were less acquainted with one another. In addition, the Green Team's commitment to engaging in ice-breaker exercises and developing a team charter set the stage for robust collaboration from the beginning. As the Yellow Team's Klara stated: "Because you have to [participate] with people you do not know, you are kind of baring your soul a little bit, and I think that was part of the problem." Klara's reflections on the Yellow Team noted the challenges of working with entirely unfamiliar peers,

highlighting the need for a foundation of trust or commitment to optimise the collaborative potential of DT.

Moreover, a significant level of awareness and familiarity with disability among the nondisabled participants [4] boosted productivity – this came through strongly in the Green Team, which had two visually impaired participants in the group. Many of the nondisabled participants had extensive experience engaging, living, working or collaborating with PWDs; in addition, all three of the PWDs professionally work in the disability realm. Charl explained how his familiarity with a visually impaired student influenced him during the DT workshop. He noted that how his visually impaired team members communicated, worked, and brainstormed was what he expected. Facilitator Cornelius described a scenario in which they would intuitively help one another based on capacity, like how Sam, sitting next to a blind team member, read post-its out loud so that his visually impaired team members could follow the visualisation process:

> For example, Charl could write. He is an able-bodied person (sic), and so he would offer to do the writing. Sam would put the things on the board behind them because he could get up and put stuff on there and see where the board was.

The lived experiences of PWDs played a central role in shaping decision-making processes across critical phases of the DT process, including the phases of "defining", "ideating", and "prototyping". For example, Luyanda's experiences navigating restaurants as a blind person provided key insights that led the team to explore solutions like accessible menus and better-trained staff, directly addressing real-world challenges: "In my lived experience, you find that every time I go to a particular restaurant, even the staff members do not have time to read all those, you know, whatever lists of whatever they would be selling." Through collaborative

efforts, Luyanda's experiences prompted innovative solutions, such as using accessible platforms to identify blind-friendly establishments. This narrative resonated with other PWDs [5] in the workshop, spotlighting the necessity of incorporating diverse points of view during the collaboration process. However, with the empathy-map exercise, as described by Elena, the boundaries between empathy and lived experiences were blurred: "It was with the empathy map when we had to speak about experiences... I still joked with the facilitator to say we do not have enough time to share," which again highlighted the time constraints and the deep learning opportunity with the core user in the DT process.

4.3.2 Communication

Effective and accessible communication proved integral to fostering synergy among participants, particularly considering the diverse impairments of PWDs in the DT workshop. Busisiwe emphasised this need by stating: "People have to communicate in a way that everybody understands and can be part of." This was especially important for participants with sensory impairments, where clear and proactive communication strategies, such as ensuring visual aids and interpreter support, were crucial in fostering full engagement. The challenges faced by deaf and hard-of-hearing participants were apparent, prompting adaptive strategies within teams. Busisiwe, as a hearing participant in the Yellow Team, recognised initial communication hurdles and the subsequent formulation of a team charter to overcome these barriers to collaboration. Bertie, reflecting on his experience with team members having hearing impairments, highlighted the significance of the mechanics of communication: "I think the challenge was… not necessarily in what you communicate but in how you communicate." Acknowledging complex individual needs within the group and the importance of making others aware of diverse and nuanced communication preferences – like looking at the person

you are speaking to help pay attention, or doodling while a conversation is taking place as a focus mechanism – Busisiwe further captured some of the complexity of communication in the Yellow Team, where one PWD was reliant on SASL, and the other is hard of hearing:

> We all had to tell everyone how we communicate with others and how we like to be given attention. For Justin, that was particularly difficult because people who can hear us often tend not to be aware of that. If you are facing away from that person, they will not be able to read your lips or see what you are saying. Sometimes, if you speak too fast or too slow, someone else will not understand.

The findings underscored the critical role of clear and proactive communication in addressing anticipated and emergent individual needs in the collaboration between PWDs and nondisabled participants. Charl, drawing from his experience as an ally, highlighted the need for open communication to understand the unique requirements of PWDs better, ensuring assistance without disrespect or exclusion. This approach of asking rather than assuming needs resonated widely among the PWDs, as articulated by visually impaired participant Elena, who underscored the importance of enquiring first: “You ask a person what they need before assuming what they need.” Communication emerged as a pivotal thread to achieve synergy in collaboration during interviews, highlighting its importance in fostering non-patronising assistance. Charl, reflecting on his previous role as an assistant to a blind music student, highlighted the importance of understanding individual needs through open dialogue. This lesson transcended into his collaboration in the DT process. The study revealed that the presence of team members with significant prior experience and unique communication adaptations, created a more informed and respectful collaborative environment.

Communication did, however, also present barriers to collaborative synergy, and the study revealed nuanced strategies involving two sensory disabilities. Cornelius, the lead facilitator, acknowledged the limitations of his understanding regarding communication with participants who are deaf or blind. His reflections highlighted the necessity for flexibility in steering the process to accommodate individual or team needs. The use of visual aids, such as post-its, garnered mixed reactions. Charlene, who is hard of hearing, praised the written format for aiding her comprehension: "I think the use of writing notes or the use of writing concepts helped me to grasp the [DT] process more." Contrary to this, Justin, a deaf participant, criticised the small size of the notes, and suggested using a digital tool for enhanced accessibility:

> The different questions or the little sticky notes [post-its] could be presented with the stickies against the wall… All the words were very small written on these, so it will be better to then put them clearly onto [a screen], like zooming in. Like to enlarge, to make [the visibility] better.

Overall, the Yellow Team, with two deaf and hard-of-hearing members, found the writing process integral for equal participation and social inclusion. The importance of clear and simplified language in questions concerning accessibility was highlighted by Justin and the volunteer SASL interpreter, underscoring the need for nondisabled participants to facilitate meaningful participation in this regard. Alternate communication methods, ranging from pen and paper to WhatsApp video calls, were essential for an inclusive collaborative process. The SASL interpreter also played an important role in conveying accessibility needs, inadvertently educating participants without disabilities about the diverse challenges faced by PWDs, particularly the hearing-impaired team members [2] and stakeholder [1].

It also came to light that the discomfort in interactions between PWDs and nondisabled people often lies in unfamiliarity and not knowing how they would like to be treated, and this often has nothing to do with their disability but rather more to do with consent and what PWDs are comfortable with in terms of human interactions. Charl captures this sentiment:

> For example, if I walk down the street with a friend who can see, I am doing my things independently from the other person, but with a visually impaired person, you have to keep track of where they walk... In the beginning, it was very much like meeting a new person. A new person would not just *inhaak* [hook in their arm] with me immediately... I think it was that awkwardness, but there was not an awkwardness with their disability.

However, within the developing dynamics of communication during collaboration, a tendency gradually surfaced: nondisabled team members would become less vigilant about including PWDs, as the "teams grew more comfortable with one another". Theunis, the videographer, noted that nondisabled participants, in their eagerness to find solutions, sometimes overlooked the need for heightened inclusivity. Theunis, as an observational participant to the collaboration process, remarked: "It is like they were inclusive, but then they would need to make a little bit more of an effort." Iteratively, the lapse in awareness was often rectified through continual education, about ways to be more aware and informed about disabilities and related needs, provided by actively engaged PWDs, particularly those with sensory impairments. Theunis highlighted the importance of these interactions, illustrating instances where nondisabled participants realised the significance of accommodations, such as visual and auditory cues, that they took for granted. This mutual learning process underscored the depth of understanding required for genuine inclusivity in innovation.

The workshop created a fertile intersection for reciprocal education, transcending the traditional boundaries between PWDs and nondisabled participants, as well as between PWDs and people with different disabilities than them. Elena, who can only see about 5%, noticed fine nuances surfacing in the workshop. For example, this was the first time she encountered the different ways service dogs were treated, reflecting on how PWDs with different needs use their service animals differently:

> What I picked up for myself was – it sounds very simple – how we treat our service dogs. I picked that up very quickly because the way I interacted with Haiku [her service dog] was different from the way Ben interacted with his dog, for example.

Her insight extended beyond practices with service animals, delving into the distinctive approaches employed by PWDs in navigating life and relating to one another: "We needed different accommodations, but it was also nice to see that we could still relate to each other as well." The topic of individualised experiences resonated throughout the workshop, with both PWDs and nondisabled participants undergoing a transformative educational journey and an enriching experience. Bertie, a nondisabled participant with limited prior engagement with PWDs, encapsulated the collective sentiment by emphasising broadening horizons:

> I think we all felt that we would never look at restaurants and similar public spaces in the same way again. You suddenly realise how something so normal is to you every day, how exclusionary it can be at the same time for someone else. It is always an enriching experience to work together in a group and to see all these ideas come together and create something larger than the sum of the parts.

Participants [4] noted the importance of mutual learning and underscored that PWDs should be socially included and active contributors to broader societal conversations. Klara passionately advocates this, asserting that "[d]isabled people are people with valuable experience and knowledge", underlining the indispensability of their perspectives. Bertie underscored the collaborative process to enhance mutual understanding by stating: "It will foster mutual understanding, improve sensitivity, and empathy." The positive experiences of PWDs involved, as Nikki attested, reaffirmed the importance of valuing their contributions: "I felt heard, they valued my opinions, and that my opinions could educate others", acknowledging their potential to educate and enrich the perspectives of others.

The role of PWDs in educating nondisabled collaborators and counterparts about their lived experiences is a topic stirring diverse reactions. Elena, engaged in marketing and disability advocacy, shared her occasional frustration when her work is coupled with educating others about disabilities: "Sometimes it frustrates me, especially if it is someone you will be working with for a long time." Despite her frustrations, she highlighted what a positive impact self-education for nondisabled people could make, if they researched disability-related issues to foster improved collaboration. In contrast, Luyanda, a prospective mobility and orientation practitioner living with blindness, firmly believes in his duty and responsibility to educate nondisabled individuals about his reality, and reflects on the positive ripple effect his educational efforts can have on other blind people in future:

> I will be changing one person probably, maybe on behalf of two more people, on behalf of maybe 100 more people. I do not know because I would not know. After I interact with that person, how many more blind people will that person interact with?

In addition, some participants [6] noted the role of allies and their support structure in the quest towards better education and recognised that family and friends of PWDs can be "powerful advocates" in boosting disability-related awareness.

Throughout the workshop, a prevailing theme was a lack of awareness among both PWDs and nondisabled participants regarding the intricacies of different disabilities. Charlene, taking into account that she is hard of hearing and lives with cerebral palsy, highlighted the need to consider a spectrum of needs and involve, for instance, individuals like Justin, who is faced with unique challenges because he is entirely deaf: "There was something that I have never thought about, for example, load shedding. And when it is dark, how does a deaf person sign when it is dark, or the limitations on signs overall?" Sam, a nondisabled participant, candidly acknowledged the inherent difficulty of fully grasping the nuances of living with a disability: "One obvious challenge I feel I would have is the inability to be as sensitive about the inaccessibility as somebody with a disability is." The importance of education and concerted efforts towards awareness emerged prominently, with Elena continually bringing to the fore the significance of consulting PWDs before making decisions that affect them:

> In many situations, people who are not disabled make blanket statements about disabilities. Their intention is sometimes good, but they do not consult with people who have disabilities before they make decisions or statements... If they can stop trying to be the voice of disabled people and actually consult and ask questions first, it would make life a lot easier.

The awareness gap between nondisabled participants and PWDs highlights the inherent challenges of genuinely empathising with the experiences of PWDs. Cornelius candidly

discussed the challenge of understanding accessibility needs, noting “to be empathetic and put myself in their shoes will probably be the biggest struggle because of this”. Sam, deeply engaged in the disability sphere, echoed this sentiment, acknowledging the limitations of his understanding: “I can never completely put myself in the shoes of somebody else.” This awareness gap is palpable in practical scenarios, as demonstrated by the Green Team’s struggle to adapt communication for participants with visual impairments. Based on his own experience, Sam reflected on the complex and tailored communication difficulties the nondisabled participants navigated throughout the workshop, in this case, to include visually impaired participants. Most notably, a continuum of awareness, laced with continual macro and micro corrections by his nondisabled counterparts, PWDs, and, most importantly, the education-hungry mind shift required to achieve inclusive collaboration during a DT workshop was critical for inclusive collaboration between PWDs and nondisabled participants:

> It was annoying because I kept forgetting that when you have blind people around the table, you have to say your name up front a few times in the beginning because they are just like you, associating the voices with the people saying the words. So, it was a mind shift. I kept forgetting to say my name...

4.4 Conclusion

Chapter 4 presented findings from a case study exploring the collaboration between PWDs and nondisabled people in a DT workshop; a collaborative effort focused on improving information about South African restaurants’ accessibility features. Following Braun & Clarke’s (2006) semantic analysis research approach, the research revealed three overarching themes: inclusivity, resilience, and synergy.

Inclusivity findings demonstrated that PWDs contributed valuable lived experiences to the collaborative process when appropriately accommodated. Diversity of capabilities and perspectives enriched the solutions developed. Under resilience, the study revealed how positive attitudes fostered collaboration while initial discomfort transformed into trust through mutual assistance and shared purpose. The synergy theme showed that clear communication strategies and integration of diverse experiences significantly enhanced collaborative outcomes, though ongoing education remains necessary to address awareness gaps.

These findings demonstrate that effective collaboration between PWDs and nondisabled participants can yield more comprehensive solutions for accessibility challenges and foster greater awareness and understanding on each group's side. By bringing diverse views together facilitated through a structured process, the DT workshop affirmed the potential of inclusive innovation through the deliberate collaboration of PWDs and nondisabled individuals.

CHAPTER 5: DISCUSSION

This study explored how collaboration between disabled and nondisabled communities in a DT workshop can enhance the South African restaurant industry's information on accessibility. In doing so, the findings reveal that this collaboration has the profound potential to foster a more inclusive social environment for all. This real-world impact is evidenced by the tangible solutions generated in the workshop, which directly address accessibility barriers, highlighting the role of collaborative innovation in bridging gaps between disabled and nondisabled participants.

The researcher conceptualised and created a two-day DT workshop to address social-inclusion challenges faced by PWDs in the restaurant industry. PWDs and nondisabled participants collaborated to address the following challenge statement:

> *Design a sustainable solution to provide PWDs access to detailed information about restaurants' accessibility features.*

From the moment they were invited to partake in the workshop, all the PWDs were on board because they experienced the issue of lacking information about restaurants' accessibility features first-hand. According to them, the choice to be socially active in recreational spaces, such as restaurants, is impacted by information about restaurants' accessibility features. This information directly influences PWDs' decision-making process and determines whether they use spaces where society interacts socially. Significantly, most participants [14 out of 17], regardless of (dis)ability, were motivated to partake in the project because it tangibly affects people's lives, even though the workshop itself took up an entire weekend and most participants had full-time jobs.

The study identifies factors that promote self-reported trust in the DT workshop and describes the barriers to collaboration within the DT process. Constructing and facilitating the two-day workshop as a collaborative and II process – with half of each design team consisting of PWDs – this case study explored the co-creation of solutions for more inclusive information about restaurants' accessibility features among a diverse set of participants. By employing an inductive approach, this qualitative study used a single instrumental case study design, with two interviews before and after the workshop as the primary data sources, as well as observations, to become familiar with the data. Braun and Clarke's (2006) six-step framework identified three overarching themes, bringing a compelling narrative about inclusivity, resilience, and synergy to the fore. For instance, inclusivity was demonstrated by the willingness of participants to modify traditional processes, ensuring that all voices were heard. Resilience was evidenced in the persistence of participants, particularly PWDs, who overcame structural and attitudinal barriers. Synergy emerged as participants worked together to create innovative solutions that neither group could have achieved alone.

With inclusivity as a central theme, the study stressed the vital role of accessibility and diversity in creating a welcoming environment in a DT workshop. Resilience emerges as a critical factor in overcoming challenges and normalising accessibility. Synergy fostered through effective communication and collaboration underscores the power of united efforts in achieving inclusivity, as other scholars note, particularly regarding PWDs and nondisabled people (Stevenson, 2010; Wolf-Meyer, 2023). This study highlights the need for prioritising accessibility and advocates for legal frameworks, which is a lacking but non-negotiable and known component to improve social inclusion (Reeves et al., 2023; Schnitzler, 2020; Van der Merwe, 2021; Vanderschuren & Nnene, 2021). It also notes the importance of embracing diversity, which contributes to increased awareness and understanding of disability, as Jones (2020) and Pickard (2022) hypothesised, as PWDs are part of the collaborative effort. By

leveraging DT as an II workshop framework with co-creation between PWDs and nondisabled people – a collaboration endorsed by Ostroff (2011) and Wolf-Meyer (2023) – this study stresses the potential for creative solutions to enhance restaurant accessibility for PWDs, as well as to foster greater inclusivity. It underscores the imperative of effective collaboration, communication, and cultivating resilience to create a more inclusive dining landscape for PWD in South Africa. However, these efforts cannot succeed without enforceable policies. The study's participants consistently emphasised that even the most innovative solutions would falter if not supported by robust, actionable legislation. This finding aligns with the arguments of Vanderschuren and Nnene (2021), who stress the critical role of policy enforcement in transforming accessibility from a goal to a reality.

Notably, participants identified a range of activities related to DT that promoted high levels of trust between disabled and nondisabled participants: The creation of a "team charter" or social agreement by participants to set the tone for the event, leading to empathy work; the continual co-learning environment; the willingness to be vulnerable and honest; and the acts of assistance and human interactions, both professional and socially, are activities or acts that were perceived to have trust-building qualities.

Some barriers to improved collaboration during the DT approach included communication difficulties, a lack of awareness and understanding of diverse needs, time constraints, perceptions of uneven participation levels, and a lack of prioritisation of accessibility. Overcoming these barriers is essential for fostering effective collaboration and achieving inclusive outcomes in DT and in general.

Overall, addressing its overarching research question (**How can collaboration between the disabled and nondisabled community in a design thinking workshop improve information on South African restaurants' accessibility features?**), the DT process improved collaborative efforts between disabled and nondisabled people through inclusive

representation, user-centric solutions, and empathy work, which deepened relatability, creative problem-solving, and effective communication and collaboration. These elements contributed to developing more inclusive and practical solutions to accessibility challenges.

5.1 Comparison to the Literature

It is imperative to contextualise these findings within the existing literature. The case study's exploration contributes to an ongoing discourse and sheds light on the nuances and complexities observed in previous research. By comparing the study's findings with established perspectives, the study addresses both convergences and divergences in the literature, offering valuable insights into the social inclusion of PWDs in restaurants, by enhancing information about their accessibility features. This comparative view also unveils deeper understandings and implications concerning the collaboration between PWDs and those without disabilities in a DT workshop. Moreover, this study extends the work of Simplican et al. (2015), who argue that effective inclusion frameworks must foster active participation and equal decision-making power for PWDs. The findings here illustrate how such a framework can be operationalised in a workshop setting, bridging theory and practice.

5.1.1 Social Inclusion and Views on Disability

The study strengthens Gidley et al. (2010) and Simplican et al.'s (2015) views that social inclusion requires participants and the agency of groups that are both considered marginalised. The study shows how DT, within this II approach or framework, is constructed in a way that requires participation and fair levels of engagement. Deliberately constructing design teams with half of the participants in relevant marginalised groups dramatically increased the

likelihood of marginalised voices' agency in the room. This study focussed on including PWDs in the innovation process and solving the lack of information on restaurant accessibility, a barrier to their social inclusion. Therefore, addressing the barrier to social inclusion by involving PWDs in the solution-finding effort from the beginning improved the relevance of the solutions and the ideas with which the participants came forward. In addition, on a methodological level, one of the benefits of DT's self-organised teams was that participants could exercise a substantial amount of agency in how and when they participated in the process, which made the innovation approach especially suited to drive inclusionary solutions to accessibility challenges.

Solving issues of social inclusion through collaboration between both PWDs and nondisabled participants in a DT workshop could be viewed through all three lenses[5] through which Gidley et al. (2010) view social inclusion, which brings theory and practice closer to each other, suggesting a DT workshop can be a research vessel to thoroughly explore these viewpoints in future. The outcome of the DT workshop brought authentic and deep knowledge of what access requires, and the process is driven by participation and continually making the necessary accommodations and adaptations. It is ultimately a collaborative effort levelling the playing field between PWDs and those without disabilities. This flexibility and adaptations in the DT process coincided with empowerment and collaboration with a diverse set of nondisabled participants, ranging from some who were already active disability allies to others who had little to no experience; nevertheless, valuable skills and interests were contributed collaboratively, which resultantly fostered human potential. In addition, the ideas formulated

[5] The three lenses are: (1) A neoliberalist view concerning social inclusion as access; (2) a social-justice lens that equates social inclusion to participation; and (3) viewed through the lens of human potential, social inclusion as empowerment.

during this process could contribute to transformative change in improving access to South African restaurants' accessibility information.

Furthermore, the study solidifies Reisdorf and Rhinesmith's (2020) belief that social inclusion can apply to digitised environments – though, in this case, the lack of information and how it can be a significant barrier to social inclusion for PWDs. As Charitsis and Lehtiniemi (2023) suggest, algorithmic preferences could quickly deepen its marginalisation.

Wendell (1989) notes that PWDs are often disenfranchised and labelled "the other". During this study, the narratives of PWDs and nondisabled participants acknowledge the impact of othering. In the context of collaboration in a DT workshop, participants stressed the importance of valuing each person's contributions, cultivating engagement, and, by doing so, actively combatting othering. Participants considered collaboration and equal inclusion critical to achieving social inclusion and identified dismissiveness as a factor that fuels othering, ultimately forming a barrier to collaboration. It is also significant that PWDs sometimes resort to self-othering, and a need for a holistic and engaged educational approach to address perceptions about one another from both sides is necessary to promote inclusion in instances where PWDs and nondisabled people collaborate.

Fantinelli et al. (2022) underscore a sense of fulfilment, robust identity, and enablement drawn from active engagement following the inclusion of PWDs. However, although this study contributes to the scarce body of literature on collaboration between PWDs and nondisabled people, more specific literature on the impact of active engagement in the restaurant industry and restaurant-related fields is needed. Like Fantinelli et al. (2022), though, this study found fulfilment, robust identity, a resilient sense of self, and the fostering of enablement in a case study that had active engagement at its core, in part thanks to the DT process, which naturally facilitates collaboration.

As Remillard et al. (2022) note, this study suggests that accessibility, policy development, and the implementation of these policies are interrelated and significantly impact the social inclusion of PWDs. Although Remillard et al. (2022) were more concerned with transportation services for PAwMD than creating a higher level of social inclusion for them, this rang true about the challenges PWDs experience in restaurants in South Africa in this study. Ultimately, the issue is related to giving PWDs access to an information service that would remove barriers to social spaces and do so with ease and comfort.

Saran et al.'s (2023) finding of the positive effect the social inclusion of PWDs could have is not disputed in this study – in fact, it was the reason why participants opted to take part in the study in the first place. Whereas Cloquet et al. (2018) discussed the importance of adequate information in the broader tourism industry, this South African case study confirms that the information available on accessible restaurants is lacking and directly influences PWDs' decision-making on whether to go out and be socially active or not. Moreover, Cloquet et al. (2018) argue that adequate accessibility information is vital for PWDs, as it surmounts environmental and socio-economic obstacles in tourism participation. In addition, and similar to Cloquet et al. (2018), this study emphasises that adequate and encompassing information about restaurants' accessibility features is essential to achieve inclusivity and accessibility for all in the South African restaurant industry. This, in fact, applies to any industry inviting PWDs to be socially active, and where they would need to be informed about physical places, spaces, and/or venues' accessibility features.

This study adopts the social model of disability, which views society as the culprit behind the disabling of people – not their medical condition itself (Shakespeare, 2013), which is broadly in line with the experiences of PWDs in this case study. During the DT process, however, PWDs were pragmatic about adjustments, adaptations, and accommodations needed to create an environment that they deemed inclusive. The two-day collaborative effort

practically affirmed how the lack of information about accessibility in restaurants subsequently "disables" PWDs from participating socially with relative ease and comfort. This experience is also in line with the World Health Organisation's (2021) definition of disability, which refers to PWDs' confrontation with various hurdles that hamper their social inclusion.

This view on disability also agrees with Levitt's (2017) argument that the social model is not irrelevant but should adapt to social change. Furthermore, DT's human-centred nature (Greeson et al., 2021) can be viewed as emancipatory, as it demanded a meaningful outcome for PWDs in this case study, although it is also its meaningful nature which motivated nondisabled participants to partake in the workshop. It can also be viewed as narrowly related to the social model of disability – regardless of the fact that some perceive it as a part of the social model (Barnes, 2003; Mercer, 2002) and others argue it is merely complementary to it (Levitt, 2017). It, therefore, poses ample learning opportunities to explore the multifaceted nature of disability, as well as nondisabled views on it as well.

Similar to Schnitzler (2020) and Van der Merwe's (2021) sentiments, this study suggests that policies' intent does not necessarily translate into impact, and just like Kosanic et al. (2022) imply, policies are not far-reaching and intersectional enough. Like Reeves et al. (2023), this study also argues that policies are flawed and, much like Vanderschuren and Nnene (2021), that policies and laws are imperative to address disability-related marginalisation and societal inclusion, which was central to the participants in this case study's beliefs. They echoed Cloquet et al.'s (2018) sentiments that social environments, such as recreational spaces and activities, are influenced by governmental and legislative policies, but also took it one step further by stating that policies themselves will not be adequate if they are not as mainstream as, for example, anti-smoking legislation. These findings can assist disability policy advocates in campaigning for more actionable and enforceable policy and policy governance in the South African context.

Brzykcy and Boehm (2022) argue that disability policies must prioritise PWDs' accommodations and support, which enable them to actively engage in the workplace, instead of focussing on merely categorising them. During the workshop, the impact of appropriate accommodations was evident. It showed that with the necessary flexibility and adaptations, even the seemingly inaccessible DT innovation process could be accessed with reasonable comfort – and PWDs could contribute meaningfully to it. Solutions born from this II process could translate into transformative change in the restaurant industry – or any other context that involves PWDs – as well. The focus on accommodations, particularly related to the restaurant industry, would be in line with the United Nations' (2006) CRPD mandate, which explicitly provides for the rights of PWDs to participate in cultural and leisure activities and specifically highlights that appropriate measures must be taken so that PWDs can partake in social activities on an equal basis. As South Africa is party to the CRPD (Statistics South Africa, 2011), it is imperative that the government enforce it. Van Melik and Althuizen's (2022) view that PWDs should be incorporated into policy-making to improve awareness emphasises the significance of inclusion and decreases biases against PWDs, which align with this study's findings in that its participants advocated for the inclusion of PWDs in any needs analysis or innovation, especially when issues that directly concern PWDs are being solved.

Naukenova (2015) suggests an exploration of disability policies' influence on PWDs' experiences, as the findings and its implications are globally relevant whenever the social inclusion of PWDs are concerned. Following this case study, it became evident that DT could be used as a collaborative and II process to explore these influences, as it could be scaled to become a more sizable workshop where an even more diverse set of PWDs could be included. If a practical design challenge is constructed around this, researchers could leverage and explore the empathy phase to get a deep and rich understanding of lived experiences unique to any social inclusion matter. The DT process is uniquely positioned to garner deep and authentic

insights into issues if (1) it is aligned with the problem statement and (2) the involved people's concerns directly form a part of the design process. However, it is important to recognise the limitations of the DT process in addressing all accessibility concerns. Some issues, such as the need for policy reform or structural accessibility improvements, may extend beyond the scope of what can be achieved through collaborative design and require broader systemic changes.

5.1.2 The Role of Collaboration, Allyship, and Trust in Disability Inclusion

This study affirmed the sentiments of Bigby and Wiesel (2011) and Hussein El Kout et al. (2022) that more efforts by social activists and innovators are essential to bridge divides. This case study found that PWDs should be included in the innovation process, similar to the DT workshop at the core of this study. The significance of the robust representation of PWDs in innovation processes to solve related issues is stressed in this study. The expressed need for solid representation, accompanied by a very positive sentiment about PWDs' inclusion in this workshop, aligns with Carroll et al. (2018) and Ostroff's (2011) assertion that involving PWDs in the initial design phase ensures that their needs are integrated from the outset rather than being addressed as an afterthought. The rich insights into PWDs' lived experiences significantly contributed to the relevance of possible solutions presented by the design teams in this workshop.

Gray (in Nyanjom et al., 2018) describes collaboration as the constructive exploration of differences and the search for possible solutions that might not have been part of individual vision. The DT workshop becomes the embodiment of this definition and rings true of not only the collaboration between PWDs and nondisabled people but also the collaboration between PWDs themselves. This study, however, suggests a slight modification of the definition to

include relatability, as it quickly became evident that relatability would often spark curiosity and, subsequently, fuelled the momentum and collaboration within the workshop.

The study's premise corresponds with on Michopoulou et al. (2015), who claim that collaboration is essential for the development of accessibility in the broader tourism industry, which includes restaurants. Following the conclusion of the case study, participants affirmed the need for collaboration across industries, and, in this case study, specifically around the availability of information about accessibility features of restaurants in South Africa. Michopoulou et al. (2015) also highlight the significance of stakeholder collaborations in determining future scenarios. These scenarios vary from a harmonious, cooperative future with mutual benefits to a bleak outlook characterised by stakeholders operating independently due to perceived conflicting interests. Like Michopoulou et al. (2015), the potential impact of collaboration to improve accessibility information and general accessibility for PWDs in the restaurant industry was optimistically viewed. In this case, these collaborative efforts were seen to be less impactful if enforceable policies and laws were not underpinning their accessibility. Subsequently, the government as a stakeholder and binding power is essential in achieving greater overall accessibility in the restaurant industry, which also applies to how accessibility information is presented to PWDs. It is also recommended that hospitality-focussed communication practitioners conceptualise and execute strong sentiment campaigns in an attempt to change restaurant owners' perceptions about the impact of policy.

Similar to Bricout et al. (2021), this study suggests that collaborative and participatory practices can leverage technological advances to foster inclusion – although the authors do note that incorporating technological advancements is required. In this case study, however, the collaboration was time-bound and, therefore, cannot provide any insight into community change. Individual suggestions by PWDs directed adaptations and particularly the different ways communication tools were used, often with screen-reader technologies or simply

leveraging a commonly available tool such as WhatsApp to ensure access to the event as it unfolded. The DT process is a valuable tool for stakeholders to collaborate and ideate on more accessibility-related issues about the inclusion of PWDs in general. Moreover, Bricout et al. (2021) mark that engagement, evaluation, and leadership outcomes fuel smart-community sustainability, which could be explored in a similar DT-workshop environment, as the iterative nature of human-centred design enables the evaluation of these outcomes, or even a comparison with different collaborative workshop environments to get a broader view on these outcomes across innovation processes.

Following the workshop, the significance and the impact of "design with" as opposed to "design by", as noted by Wolf-Meyer (2023) – who explores these notions within the context of human-centred design and disability – is echoed by PWDs that formed part of this workshop. It is imperative that solutions aimed at a particular group of people – in this case, PWDs – are involved from the outset of development, drawing on the everyday experiences of individuals to inform design practices. It was found that PWDs' lived experiences were essential to the workshop outcomes. As active co-designers in the workshop, they guided much of the decision-making throughout the DT process; in other words, they were not merely consulted as external stakeholders in interviews, especially in the empathy and testing phases.

In Boellstorff's study (2019) on digital entrepreneurialism, PWDs move towards creating an improved self and community. In their approach, the author reposition the concept of collaboration by prioritising contribution, support, and nurturing, ultimately resulting in an enhanced sense of self and community. As Boellstorff's study (2019) was done over multiple years, there is no direct comparison, but it notably benefited from solid support from more experienced allies and other nondisabled participants, as well as PWDs who do not face communications challenges. In this DT workshop, focussing on capabilities rather than impairments was a key contributing factor to its outcomes. It can be argued that the participants

became creative contributors, like the participants in Boellstorff's study (2019), and that their abilities and the initiative they took were central to the outcomes of the collaborative effort of the workshop.

As Stevenson (2010) suggests, the value and power of collaborative efforts between nondisabled people and PWDs, are undisputed in this study, noting the importance and potential impact of co-produced, empowering, and inclusive work towards greater inclusion of PWDs. The case study enacts standpoint epistemology (Pickard, 2022), as the workshop creates an environment where knowledge is inadvertently shared and created through lived experience (Jones, 2020). In this case, it improved an understanding of disability and accessibility issues. As Pickard (2022) suggests, PWDs and their more experienced allies have invaluable insights and perspectives to add to the learning experience unfolding during a DT process. Similar to an assertion by Pickard (2022), a notable amount of knowledge was imparted to nondisabled students in a way that would not have been possible between exclusively nondisabled people. PWDs, in their interaction with people with different disabilities, also gained a wealth of knowledge. The workshop, therefore, solidifies Jones's (2020) claim that first-hand learning during collaboration positively affects a project.

Moreover, Fantinelli et al.'s (2022) assertion that inclusive environments for PWDs can be cultivated by paying attention to individual differences and needs was entirely captured and implemented during the DT workshop. The success of these individualised adaptations is evident in the feedback participants provided. No PWD shared negative sentiments about accommodations made throughout the DT process. Notably, only the nondisabled participants – and one ally, in particular – commented on the visually prone DT process as an inaccessible innovation framework, which was one of the major anticipated barriers to collaboration in the workshops' planning phase by the two facilitators.

Due to limited literature on restaurants and tourism, management studies provided valuable insights embodied during the DT workshop, leading to a more industry-relevant contribution. In their case, D'Souza and Kuntz (2023) highlight the importance of collaboration between managers and PWDs in planning and implementing reasonable accommodations. They advocate for including both parties in this process to understand PWDs' needs better. This was relevant to this study in two ways: First, during pre-workshop interviews, the facilitation team gained insights into the individual needs of PWDs attending the workshop, and even suggested particular adaptations that could make the event more accessible to and for them. Secondly, a second round of needs communication took place during the workshop, as PWDs directly communicated their needs to their nondisabled counterparts, especially in the ice-breaker and empathy phases of the workshop, with continual reminders from either PWDs or other participants self-correcting themselves and the teams as the process went along. D'Souza and Kuntz (2023) note that future research could focus on (1) exploring accommodations in different settings and (2) developing effective collaboration frameworks. This study specifically focussed on accommodations geared towards solving the issue of the lack of accessibility information about restaurants in South Africa, which contributes to this body of knowledge, but there is still significant room for academic research in this field, and in particular in the restaurant and broader hospitality and tourism industries.

Drain et al. (2018) also mention the trade-off between disability inclusion and making-style activities, like prototyping, which is an essential practice in DT (Pande & Vijayakumar Bharathi, 2020) or creating models where "more able" (p. 695) participants often become the dominant participants that could, in turn, lead towards the exclusion of PWDs with more severe impairments. As the selected participants were all invited to the workshop because they operate fairly independently and are socially active, the severity of the impairments was not exclusionary per se. Adjusting the composition of the teams to include a larger variance in

ability in the DT context could bring rich insights into managing this, as well as how it affects a design team's efforts in comparison to this case study and the like. What did, however, come to light is that introverted participants often caused a barrier to inclusion throughout the workshop. Here, accommodations and teamwork were of the essence to ensure these hurdles were mitigated, which was mostly effective throughout the DT workshop.

Bourke (2020) notes how allies must take action and acknowledge their social position within the social justice framework, similar to Freire's argument (2000) that allyship requires active collaboration with the disenfranchised. During this workshop, nondisabled participants were a mix of people who were previously active or already engaged allies of PWDs in various segments of society. However, prolonged engagement with their nondisabled counterparts led to high levels of awareness, and notably, they became engaged and active allies after this initial engagement with PWDs and the positive interactions they experienced in this workshop. Nevertheless, it was also notable that allies in the DT workshop accelerated the learning and the general awareness within their groups, as they, along with PWDs, fulfilled an educator's role within each design team, albeit through a different lens. The DT innovation approach's intensive collaboration and engagement elements can ignite the formation of future allies in the process of PWDs and nondisabled participants forming meaningful relationships and learning more about one another.

Radke et al. (2020) suggest that conflicts can arise when advantaged group members join movements to support disenfranchised groups, mainly due to their different motivations to get involved and assist. Although this study's findings touch on this, there is not enough research on how PWDs react when nondisabled individuals work to make recreational activities more inclusive for them; exploring this in the restaurant industry could be fertile ground for future research, especially – as Radke et al. (2020) propose – the tension between privileged and disenfranchised groups. Although this South African case study touches on how

nondisabled people and PWDs perceive each other, more nuanced research can be conducted with more participants to understand how PWDs and nondisabled people perceive one another's assistance and how PWDs experience allies over time. Nevertheless, the case study unearthed a friendly appreciation for the allies and the nondisabled participants in the room in general; the appreciation stemmed from their willingness to collaborate on disability issues and their general willingness to assist as needs arose. The fact that time lapsed and relationships were built over the two-day period further fuelled this positive sentiment, suggesting a need for contact time rather than first-hand experience of each other's attitudes and their motivation to affect positive change.

Hadley et al. (2022b) argue that respect, cultural safety, and trust are good indicators of sound allyship, which was a promising indicator in this case study. Positive sentiments and appreciation of the existing and future allies in the room affirmed Hadley et al.'s (2022b) claim. However, reflections and sharing within the workshop sketched a different scenario of people acting on behalf of PWDs, which was discussed in general and not necessarily related to the nondisabled participants that form part of the workshop. More far-reaching research is required to truly validate Hadley et al.'s (2022b) statement. Forber-Pratt et al. (2019) discuss allies' actions in the disabled community and outline eight strategies for making allyship more visible, as relayed on p. 29 in Chapter 2. Some of these strategies were observed during the workshop and participant reflections that followed, but most were addressed during the DT workshop, especially during the empathy work, as PWDs and nondisabled people exposed their biases and understandings of disability and its surrounding realities and needs, in those initial phases of the process. It also included a section where people's preferences and needs were thoroughly discussed to set the tone for the rest of the workshop and establish respectful working methods between all participants. At that stage, all participants were treated the same, and power resided in the equality of the exercise. Both PWDs and nondisabled participants' needs were tabled to

establish a sound working rapport, and its success and positive response emphasised the importance of doing a shared needs analysis before and during the workshop. Furthermore, the action-oriented innovation process created a framework in which active engagement and assistance were naturally integral to the team dynamic. It fostered a disability-positive allyship, or at least the beginning of it, with a significant increase in awareness and understanding. More time would, however, be necessary to cultivate meaningful and lasting allyship. The way nondisabled participants continually self-doubted and critiqued themselves also demands attention. In many cases, this resulted in a change in perceptions and certainly in a broadening of horizons, which aligns with Forber-Pratt et al.'s (2019) assertions about allyship.

During the DT process, the importance of assistance in fostering trust and relationship building, which ultimately fosters more sound allyship, was notable – itself in line with Hofmann et al.'s (2020) argument that self-directed personal assistance has positive aspects to it. Even though Hofmann et al.'s (2020) research relates to caregiving, the findings of this study similarly elucidate how assistance could lead to greater disability positivity and how improving allyship could be a force towards greater access, which could be applied in the South African restaurant industry. In this vein, it was especially noteworthy that PWDs did not dismiss assistance from their team members as a blemish on their independence, whether assistance came from nondisabled or other disabled participants, who viewed the DT collaboration as a pragmatic team effort. It might be helpful for future research to explore how pre-workshop conversations about the workshop prepared PWDs for these adaptations and how consent and buy-in influenced the positive acceptance of assistance.

Trust plays a vital role in both collaborative efforts (Bond-Barnard et al., 2018) and how users engage with information systems (Humayun & Jhanjhi, 2019), which was also evident in this case study. First, during the DT workshop, participants experienced the notable impact of human interaction during collaboration and breaks. Trust developed through

assisting with tasks and maintaining an open attitude, especially towards PWDs. Clear communication, openness to feedback, and structured engagement were emphasised to cultivate trust. Establishing a team charter was foundational in fostering trust and promoting a solid rapport between PWDs and nondisabled from the get-go. Collectively, this fostered trust and nurtured an inclusive environment, facilitating innovative solutions to information accessibility challenges in the process. Secondly, the study's design challenge was something all participants agreed with, namely that there is not adequate and reliable information about restaurants' accessibility features in the South African restaurant industry. Solving matters of accessibility was also, in many cases, the motivation to partake in the time-consuming workshop in the hope of affecting this accessibility issue positively.

Humayun and Jhanjhi's (2019) three constructs influencing the level of trust in global software development, discussed on p. 30 in Chapter 2, were also relevant in this case study, and notably, the readiness and openness to believe each PWD and nondisabled participant about their experiences, and being receptive to it. In this context, perceived trustworthiness was about expecting teams to collaborate, which in turn bolsters trust to assist and adapt to the needs of each person as the workshop progressed.

As Ukpabi and Karjaluoto (2018) noted, a positive and receptive attitude impacts trust-building. In this study, one participant went as far as saying that when there is a negative attitude towards PWDs from nondisabled people, collaboration between them would have no effect and should not be attempted. The study contributes to a scarce body of knowledge on trust in Africa (Ukpabi & Karjaluoto, 2018), in developing information and communication technology – in this case, in the conceptualisation phase of achieving more readily available information about restaurant accessibility features in South Africa in online resources.

Bond-Barnard et al. (2018) argue that a team's expectations of one another, knowledge exchange between team members, and familiarity with the surroundings, contribute to trust in

a team. In this case study, the influence of knowledge exchange by way of sharing their lived experiences with matters of accessibility and the available information thereof was tangibly enacted, and the familiarity of the people and the disabilities surrounding them and the shared expectation everybody had to solve the issue at hand, impacted trust positively.

Similar to Hadley et al. (2022a), who investigated the role of trust in the disability arts arena, this study illustrated the efficacy of quick trust, as trusting partnerships formed rapidly between disabled participants and nondisabled allies. The two-day DT process facilitated quick trust and potentially laid the foundation for more long-standing allyship and understanding, which has the potential of enabling continued relationships and collaborative efforts. Hadley et al. (2022a) suggest that marginalised people find trust through relational innovation and slow time, referring to engendering trust through deep dialogues, acknowledging vulnerability, and fostering relations between PWDs and collaborators within a defined space and time. Finding trust through relational innovation and slow time is directly relevant to the experiences of PWDs and nondisabled participants in this study's workshop, with the DT workshop environment motivating deep engagement, albeit in a confined period. This case study emphasises the importance of relationship building throughout the DT process. Clearly, it implicates its role in fostering trust over the period in which this collaborative effort took place. Hadley et al. (2022b) implore creatives to broaden their scope of thinking with regard to how the arts are developed – in its methodological approach – as this component, especially, lends itself to fostering safety and trust. It ultimately leads to an inclusive performance industry, which was equally true in this case study, with the DT process allowing trust development to take place organically over a period of time, with tangible outcomes and outputs providing momentum.

Moreover, when McDonald et al. (2022) investigated ways to help adults with intellectual disabilities feel included, they looked into methods for building trust, showing

respect, making things accessible, and encouraging participation, which is directly in line with the practical efforts during the DT workshop in this case study. As McDonald et al. (2022) support letting PWDs make their own decisions and actively involving them in research, the DT workshop posed a unique opportunity to gain deep insights into a similar venture. The case study showed that the critical elements identified by McDonald et al. (2022) to help adults with intellectual disabilities be included – building trust, showing respect, being flexible, designing for accessibility, and providing accommodations as needed – were evident. As alluded to earlier, several trust-building factors emerged during the case study: The team charter at the beginning of the workshop laid the foundation for respectful interactions with everybody's expectations and needs and flexibility by way of accommodations in the DT process to improve accessibility, was built into the facilitation teams' approach.

5.1.3 Inclusive Innovation and Design Thinking's Potential

As Unger (2015) notes, II, per definition, must have an element of human elevation and agency. In the context of the DT workshop, it was a matter of human representation and inclusion, with an equitable collaborative environment, as the design teams were purposefully constructed with a 50:50 ratio of PWDs and nondisabled participants. In addition, Sengupta (2016) notes that II must be participatory and have three characteristics: (1) enabling, (2) empowering, and (3) entitling. The DT workshop was, therefore, a prime example of an II approach or framework, as it fully adhered to the criteria as a heavily engaged and participatory event. By giving access and formulating tailored adaptions and accommodations through the process, with a solid representation of PWDs, the entire process gave a sense of entitlement to all to claim their rights to participate in cultural and leisure activities (United Nations, 2006).

According to Unger (2015), social innovation involves developing fresh approaches to action and collaboration within certain societal domains. The study's DT workshop was a creative, action-oriented, and highly engaged collaborative environment aimed at a specific societal change. As a collaborative framework, the DT process can, therefore, be used to drive social innovation.

George et al. (2012) characterise II as serving the marginalised, highlighting that it encompasses both a process and a tangible outcome. DT embodies this, as it is an innovation process with set phases that make use of prototyping to be able to test the idea with its stakeholders – itself paramount to human-centred design principles (Tschimmel, 2012).

In disability studies, II involves embracing diversity and complexity, and as discussed on p. 33 in Chapter 2, Hofmann et al. (2020) identify three opportunities for such inclusion. Like Hofmann et al. (2020), this study noted the importance of a diverse population in terms of backgrounds and interests in the composition of the teams. Secondly, as Hofmann et al. (2020) suggest, it also became evident that disability-positive allies could be a vital tool in fostering inclusion and driving II. Thirdly, although the study did not focus on relationship building between disability scholars and researchers, from its participants who included disability specialists, this notion also proved to be true.

In alignment with the study's findings, Taylor et al. (2020) and Wu (2023) stress the value of including disability experts for unique insights on accessibility matters, suggesting that it could be transformative in innovations and technology. Although the outcomes of the workshop have yet to be actioned in practice (at the time of submission), the response from the DT stakeholders indeed attested to the potential that DT holds as an innovative method eliciting social impact, as they collaboratively came up with ideas for the improvement of a social issue. Wu (2023) showcases how PWDs demonstrate remarkable and competitive talent in information technology and notes how supportive practices go beyond the exclusionary

tendencies often found in mainstream environments (also see Raj, 2018). The importance of supportive practices, fuelled by an individualised needs analysis and tailored adaptations, similarly unlocked the seemingly inaccessible DT innovation method by providing this supportive environment – itself the result of a team effort by all the participants and facilitators, in combination with some preparational adjustments, such as bringing a laptop to enable participants with visual impairments to read the digital programme. Wu's (2023) research highlights the success of PWDs as information-technology architects, which challenges common stereotypes like PWDs being "victims" or "inspirations". The DT workshop environment, which enabled PWDs to participate through the necessary accommodative measures, was heavily reliant on design teams' internal capabilities and how they self-organised and volunteered to perform specific tasks based on that, which again emphasised PWDs' choice to interact or to perform a full spectrum of tasks – writing, reading explaining ideas – as pivotal contributors to the innovation process. In this study, PWDs highlighted the need to counteract the narrative that they are "less than" or incapable in any way.

The DT case study findings, like those by Bailey et al. (2022) and Barba-Sánchez et al. (2021), identified that sound II practices include tailoring processes to the needs of PWDs. The study emphasises the importance of taking measures to understand individual needs fully and not to generalise according to a particular impairment. Importantly, PWDs communicated their needs clearly and proactively, suggesting ideas to circumvent exclusion during the workshop. The pre-workshop interviews were essential in the accommodations and adaptations in the workshop. As Bailey et al. (2022) suggest, accessible technologies and tools for PWDs could be employed in the workshop – but only when recommended by PWDs. The most significant inclusion was the electronic plain-text programme provided to the two visually impaired participants, which included the steps in the DT process and any necessary prompts in documents or on posters (see Appendix B and C). These alterations were well-received by

disabled participants who suggested it, further emphasising the role of consent and agency in any accommodations or adaptations.

Heron et al. (2022) write that DT can generate solutions that tackle accessibility issues. This case study can not only attest to that but further this statement by recognising the capability to include PWDs at the heart of the human-centred design process, which enmeshes the lived experiences of PWDs throughout the collaborative process. Two actionable ideas emerged from this process, which can now be pursued by the partner nonprofit Planet O. It was also found that the DT process evoked a significant understanding of accessibility-related policies and legislation related to accessibility in South Africa. Since there were a few participants well-acquainted with the policies and the general presence of PWDs, it further boosted understanding of PWDs' accessibility challenges in restaurants. This suggests the importance of purposive sampling to get the right mix of expertise and experience that will amount to relevant solutions to social challenges.

While Greeson et al. (2021) characterise DT as a process that prioritises profound empathy for end-user needs, the workshop strengthened the need of the end user by including PWDs in the design process and not only in the observation or testing phases of the process, which would typically be the case. Although most participants found the observations and the interviews they conducted with end-user stakeholders valuable, one participant felt that it was unnecessary to interview more PWDs, as they were already well-represented in the groups. The question arises: When there are already so many experts in design teams, what is the value of including the DT process's observation stage? A suggestion for future research is to compare the effectiveness of including or omitting this phase, in this specific instance.

Although there are many variants of the DT process, the innovation approach lends itself to flexibility (Waidelich et al., 2018) and adaptation, making it uniquely suitable to tailor towards people's individual needs. In this case, albeit imperfect, and tailored to a diverse range

of PWDs' needs, the study approach aligned with the d.school's model, consisting of five stages: (1) empathise, (2) define, (3) ideate, (4) prototype, and (5) test (Tschimmel, 2012). However, the researcher was notably advised by two independent DT consultants to give participants significant time to get to know one another and, in the process, to build trust. Setting up a team charter to establish ways of working and give a platform to explain one another's needs – both PWDs and nondisabled participants – set the tone for the rest of the workshop, which led into the empathising phase with a clearer understanding of needs and an already higher level of awareness. The findings suggest that prolonged time spent on ice-breakers and exercises, like the team charter (see Appendix B), will be used to establish a foundational rapport and accelerate trust-building within the workshop.

Waidelich et al. (2018) reviewed 35 DT models, identifying the two most constant components of the process as the "ideation/ideate" and "prototype/prototyping" phases, which, in alignment with this study, suggests an action-based innovation process with its iterative and learning- and reviewing-based process. It also strongly suggests the innovation approach's flexibility and adaptability to the needs of participants – something that was necessary to address obvious inclusion gaffs in the DT process. As Thakurta and Smith (2022) also suggest, flexibility in the DT process created an environment that was inclusive and responsive, especially with dynamic adaptations and accommodations from either the facilitation or the design teams, responding to individual needs and capabilities as the need arose. This ultimately encouraged a warm and inviting learning environment for participants, which was central in the collaborative process. The case study also mirrored Harden and Moore's (2019) participatory strategy, involving users as design collaborators in a cooperative design process among people with and without disabilities, subsequently enhancing inclusivity and accessibility throughout the process and in its entirety.

One of DT's key characteristics – providing a "gestalt view" (Micheli et al., 2019), which refers to a holistic view of the experience of a collective of people – made the II approach especially powerful to synthesise varying life worlds of PWDs and nondisabled participants, who underwent the process together. Other traits Micheli et al. (2019) refer to, such as abductive reasoning, tolerance of ambiguity and failure, and a blend of analysis and intuition, were also invaluable in providing room for all participants to show agency and explore matters of accessibility in a safe space where failure is tolerated. As Tschimmel (2012) also suggests, DT's abductive and inventive thinking enables novel solutions by exploring new perspectives and future possibilities, which was evident in the DT workshop from beginning to end, leaving ample room for innovation and the concepts presented at the end.

While Shinohara et al. (2016) explored how student designers cultivate DT in an assignment that challenged them to design for people with and without disabilities, this case study involved PWDs and nondisabled participants as part of the DT process. This study revealed, similar to Shinohara et al. (2016), how essential it is to include input from both PWDs and those without disabilities to achieve optimal, accessible design, as the non-disabled participants provide a holistic view of accessibility issues, while PWDs provide a more individualised, nuanced perspective. In this study, a powerful gestalt view was unearthed.

Concerns regarding DT's possible drawbacks involve oversimplifying intricate issues, and depending too heavily on empathy while neglecting other valuable viewpoints (Beckman & Barry, 2007). These concerns are, to a certain extent, mitigated, as the empathy work now also includes the actual lived experiences of PWDs. It could be argued that this inclusion rendered the empathy phase obsolete. However, in this case, it served as a pivotal phase of understanding and perhaps motivates the refining of renaming of the phase as "to be aware" or "understanding"; both would encompass empathy and sharing life worlds and realities to come to a solid understanding of the end user.

Jaskyte and Liedtka's (2022) view on DT's efficacy in tackling creative hurdles in nonprofit environments is evident in this workshop, as the ideas will be investigated and potentially implemented as part of a nonprofit mission to improve social inclusion in South African restaurants. However, this case study's time-bound nature limits the study of intermediate outcomes of DT, which would require studying the complete implementation of solutions created through the DT process and, therefore, measuring its impact, which could be considered a potential future research avenue.

As Carroll et al. (2010) emphasise, the power of diverse and interdisciplinary collaboration and social interaction in design activities, alongside visualisation, prototyping, and user involvement, was paramount to the case study. The dynamic and engaged process fuelled participants, although it was an immensely strenuous and time-consuming process that ultimately helped foster trust. While Jaskyte and Liedtka's (2022) five crucial DT practices for fostering trust – (1) forming diverse teams, (2) active listening, (3) idea generation, (4) feedback solicitation, and (5) real-world experiments – were noted, this study suggests additional practices: assistance and support, a receptive attitude and openness to feedback, transparent and accessible communication, structured engagement, and drawing up a team charter or a social contract at the beginning of the collaborative process, which were all integral to establishing trust between PWDs and nondisabled participants in the DT workshop.

5.2 Conclusion

This study demonstrates that collaboration between PWDs and nondisabled participants within the structured DT framework offers a powerful approach to addressing accessibility challenges in the South African restaurant industry. The study reveals that this creates a synergistic

environment where lived experiences of PWDs inform practical solutions while diverse perspectives enrich the innovation process.

The discussion highlights three significant insights. First, meaningful inclusion requires more than physical accessibility – it demands representation, agency, and deliberate accommodations tailored to individual needs. Second, trust is foundational to effective collaboration, and in this case, it is cultivated through the development of a team charter, mutual assistance, and receptive attitudes. Third, DT proves flexible and adaptable for II.

The study contributes to the existing literature by operationalising principles of social inclusion, demonstrating the value of disability-positive allyship, and expanding the understanding of trust-building between PWDs and nondisabled collaborators. It establishes DT as a viable methodology for addressing complex social challenges when disenfranchised voices are included in the design process.

These findings are relevant to the broader societal inclusion of PWDs, suggesting collaborative innovation can bridge divides and transform accessibility implementation in other instances. However, without robust and enforceable policy frameworks and attitudinal shifts, even innovative, collaborative solutions may fail to achieve lasting impact.

CHAPTER 6: CONCLUSION

This study highlights the importance of accessibility, diversity, trust, resilience, and synergy in collaborative efforts between PWDs and nondisabled people, and in this case study, in a DT workshop. These aspects advance social inclusion, and the two-day DT workshop contributed to improving access to information, aiming to make restaurant accessibility features more readily available for PWDs in the restaurant industry in South Africa. The workshop successfully demonstrated that collaborative efforts involving both PWDs and nondisabled participants could lead to user-centric, practical solutions. These findings highlight that, when PWDs are involved in the early stages of problem-solving, particularly in the design process, more relevant and impactful solutions can emerge. The study emphasised the importance of addressing barriers to collaboration by enhancing accessibility with proactive and reactive accommodations, adaptations, and acts of assistance. The study's findings also highlighted the need to prioritise and propel accessibility matters into mainstream narratives and, ultimately, advocate for enforcing policies and laws related to the social inclusion of PWDs. Policymakers are encouraged to take note of these findings and consider strengthening legislation that enforces the accessibility standards within public spaces, such as restaurants. Furthermore, regular monitoring and enforcement mechanisms should be put in place to ensure that accessibility features are maintained and communicated effectively to the public.

The importance of multiple perspectives and PWDs' inclusion in collaborative efforts was discussed in conversations about diversity. Moreover, mechanisms that bolster trust-building and effective collaboration are vital for practices hoping to achieve inclusivity of disenfranchised communities in general. Resilience was also critical in overcoming

collaboration barriers and promoting inclusivity, as it fostered positive attitudes and mindsets and addressed vulnerabilities among participants. For example, the establishment of a team charter facilitated open discussions about personal needs and expectations, while moments of vulnerability, such as sharing personal stories about accessibility challenges, allowed for deeper empathy and stronger bonds between participants. This, in turn, enhanced resilience as participants worked collectively to overcome barriers. The study illuminated the significance of synergy in II and cast light on the role collaboration and effective communication play, as the DT workshop focussed on improving information on restaurant accessibility features, as well as ways of solving accessibility issues PWDs face, by leveraging DT as an II process. This final chapter concludes the dissertation, reconciling its research questions, revealing limitations and future research areas, and presenting practical implications. Additionally, the researcher provides final remarks and personal reflections as the dissertation ends.

6.1 Reconciliation of research questions

This section outlines how the study's findings address the primary and secondary research questions of this dissertation. The analysis of themes emerging throughout the research process enabled the researcher to answer these questions.

In response to its primary research question **"How can collaboration between the disabled and nondisabled community in a design thinking workshop improve information on South African restaurants' accessibility features?"** the research revealed that collaboration between disabled and nondisabled participants in a DT workshop significantly enhanced information on South African restaurants' accessibility features through three key mechanisms, directly reflecting the dissertation's overarching themes of inclusivity, resilience, and synergy:

1. **Inclusive representation:** The equal 50/50 representation of persons with disabilities (PWDs) and nondisabled participants ensured that PWDs lived experiences directly informed solutions. This balanced representation embodied the theme of inclusivity by creating an environment where accessibility and diversity were central to the process rather than afterthoughts.
2. **User-centric solutions:** By incorporating PWDs as core design team members rather than merely interviewing subjects, the workshop generated solutions directly addressing real-world accessibility barriers. This approach demonstrated synergy through collaboration and subsequently, the integration of different perspectives and capabilities.
3. **Empathy-driven innovation:** The structured DT process facilitated deep understanding between participants, allowing nondisabled participants to gain insights they couldn't achieve without PWDs. This process fostered resilience among all participants by challenging attitudes and normalising disability within the collaborative space.

In addressing sub-question 1, **"How does the DT process enhance collaboration between disabled and nondisabled participants?"** the researcher concludes it enhanced collaboration through the following mechanisms that directly connect to the study's themes:

1. **Structured engagement framework:** DT's step-by-step nature provided a clear framework guiding participants through the collaborative effort, creating inclusivity through a process promoting a way of working ensuring that each participant's voice is heard.

2. **Capability-focused teamwork:** Teams organised themselves based on individual strengths instead of limitations, reinforcing how diversity can provide unique perspectives and capabilities.
3. **Adaptability:** DT's flexible nature allowed for necessary accommodations, demonstrating resilience through the continual adjustments and adaptations made to ensure full participation from both PWDs and nondisabled participants.
4. **Trust building:** The process fostered relationship development, building synergy through communication and collaborative problem-solving between PWDs and nondisabled participants.

Answering sub-question 2 **"Which collaborative DT activities promote the highest levels of self-reported trust between disabled and nondisabled participants?"** activities promoting the highest levels of self-reported trust connected to the themes of resilience and synergy include:

1. **Team charter development:** Creating a social contract at the beginning of the process established vulnerability-based trust and normalised open communication about needs, reflecting the normalcy aspect of resilience.
2. **Extended ice-breakers:** Deliberately allocating time for participants to get to know one another built synergy in collaboration and promoted an attitude of openness essential to resilience.
3. **Empathy exercises:** Activities involving sharing personal experiences created vulnerability that deepened understanding, reinforcing the communication element of synergy.

4. **Acts of assistance:** Natural moments of helping one another throughout the workshop significantly contributed to trust-building, demonstrating both the accessibility aspect of inclusivity and the positive attitude element with the resilience theme.
5. **Collaborative decision-making:** The structured approach to role allocation during interviews ensured equitable participation, exemplifying the collaboration aspect of synergy.

Addressing sub-question 3 **"What are the barriers to improved collaboration when applying DT methodologies?"** the researcher identified five key barriers to improved collaboration reflected challenges within each thematic area:

1. **Communication challenges:** Different communication needs, such navigating different languages or visual or hearing-related needs, among participants posed difficulties that required ongoing attention to enable the communication aspect of synergy.
2. **Time constraints:** The DT workshop is very interactive and intensive, which sometimes limited participation, influencing the vulnerability, forming part of the resilience theme, as participants needed enough time to process and contribute.
3. **Visual emphasis:** Traditional DT's reliance on visual tools presented accessibility challenges that threatened inclusivity for visually impaired participants.
4. **Lack of awareness:** Inconsistent understanding of different disabilities' needs demonstrated gaps in attitude and awareness impacting resilience.

5. **Uneven participation:** Strong personalities sometimes dominate conversations, creating challenges for true diversity within the theme of inclusivity and balanced collaboration within synergy.

The research demonstrates that the themes of inclusivity (through accessibility and diversity), resilience (through attitude, normalcy, and vulnerability), and synergy (through collaboration and communication) provide a comprehensive framework for understanding how collaborative DT workshops can effectively bridge the gap between disabled and nondisabled communities to create innovative, inclusive solutions to accessibility challenges in the restaurant industry. While the study explored how collaboration between a community of PWDs and nondisabled participants during a DT workshop can enhance information on the accessibility features of South African restaurants, to improve the social inclusion of PWDs, the study found that a significant representation of PWDs in the workshop led to highly relevant user-centric solutions, with continual learning for all participants throughout the workshop. Empathy work was strengthened by relatability, bringing creative problem-solving to the fore. Effective communication and collaboration were also critical role-players in these efforts. Collectively, it contributed to developing more inclusive and practical solutions to accessibility challenges, with the study's limitations and future research areas clearly articulated.

6.2 Limitations and Future Research Areas

Within this study several limitations and future research areas have been identified, considered and mitigated where appropriate.

1. The study focussed on a single case study – a two-day in-person DT workshop, including online interviews before and after the event – and was, therefore, limited in physical space, time and capacity. Overcrowding the venue would have hindered accessibility within the physical event and highlighted that ample space is necessary to make such an environment accessible. There was also only one key facilitator and one SASL interpreter, who could have struggled to tend to a much larger group. Similarly, even with a reasonable amount of approximately six 'work hours' per day, participants were already exhausted and had to partake over a weekend to ensure participation as the research was voluntary. These constraints and considerations only allowed a select few participants to participate. Due to these limitations, it could hinder the generalisability of the findings to broader populations. Extending the sample size with a deeper range of PWDs included, and the size of its support team, including the significant bolstering of the interpreter's capacity along with a larger facilitation team, could improve a comprehensive understanding of collaborative dynamics in DT workshops.
2. The study is limited to a time-bound two-day workshop without the enactment of either of the workshop ideas being guaranteed, which bodes the potential to capture the long-term effects of the DT workshops on collaborative relationships and inclusive practices, including following through on the practical outcomes after the workshop. A future research area could include a more longitudinal approach to the research to gain insights into DT's long-term impact and how the interactive and iterative process unfolds over time where at least one idea born from the initial process is taken on as a practical project, characterised by these quick-learning DT principles. The impact of the implemented DT solution could also be juxtaposed with a project that did not follow human-centred design principles.

3. As the researcher was also a participant in a facilitating capacity, the in-person observational capacity was somewhat impeded. This dual role may have led to unconscious biases during the facilitation process. For future studies, separating the roles of researcher and facilitator could improve the objectivity of observations. Additionally, a broader participant pool with a more diverse range of disabilities, professional, and cultural experiences could yield more diverse insights into the collaborative dynamics between PWDs and nondisabled individuals. The researcher "revisited" the event via audio or video recordings, creating more distance between the researcher and the participants to bolster impartiality. Furthermore, all participants might not have been that comfortable in an environment where they were recorded, which could have stifled their interactions and contributions. Strong emphasis was put on the initial ice-breaker exercises to ensure the participants were not stressed or uncomfortable.
4. Though the editing of audiovisual material was minimal, it could be argued that even minimally, it creates a partial vision of reality. The same goes for technical challenges, which forced relying on audio only to bridge unclear gaps on the video recordings.
5. DT follows particular steps to which the researcher is bound. The researcher has to react swiftly to accommodate PWDs and time constraints, which do not always allow the full scope of the process to unfold. This often results in one team skipping a step that another would complete simply due to accommodations that were necessary to create an inclusive experience for all. If these alterations are not well considered, they could eliminate critical steps in the DT process.
6. Although the researcher included as many disabilities as possible, the primary focus was three of South Africa's most prevalent disabilities. The study, therefore,

could have overlooked the experiences and perspectives of PWDs who are less represented. Future research could include a more comprehensive representation of disabilities.

7. Due to social sensitivities and cancel culture, social appropriateness could have prompted participants to give socially acceptable answers, even during the online interviews, as they knew they were being recorded, regardless of the promise of anonymity. Further mitigations, such as anonymous quantitative methods, could bring more rigour to these findings.
8. The learnings on the impact of DT can be further explored by a comparative analysis with alternative workshop formats, limiting the ability to assess the unique contributions of the DT process to collaborative outcomes. Addressing these limitations in future research could contribute to a more nuanced, comprehensive understanding of collaborative dynamics between PWDs and nondisabled participants, exploring attitudes, empathy, understanding, and sustained collaboration between them. Research could entail testing, adapting, or developing different co-design approaches to foster II practices where PWDs are involved.
9. Another study avenue could extend a wider use of technology, which could range from assistive technologies and using collaborative tools to pursue a similar collaborative effort online or even a hybrid approach to mitigate the strenuous effect of DT by creating a more bite-sized and manageable programme or event.
10. Researchers could also consider exploring collaborative DT processes between different cultures and how cultural factors influence the dynamics of collaboration between PWDs and nondisabled people.
11. As the study suggests, policy and enforcement are believed to be essential to achieving the inclusion of PWDs in the restaurant industry. Researchers could

investigate the role of policy frameworks, advocacy initiatives, and legal regulations in promoting collaborative efforts and inclusive design practices in the restaurant or broader hospitality industry.

12. Finally, the role of diversity and interdisciplinary contributors in DT to achieve impactful solutions to improve accessibility-related issues in the restaurant or broader tourism and hospitality industries could be studied. Research could involve studying the benefits of diverse expertise in fostering innovative and inclusive solutions.

6.3 Practical Implications

This study underscored various benefits and considerations for restaurant and broader hospitality or tourism practitioners, DT facilitators, and information and communication practitioners concerned with accessibility in the restaurant industry. The study considered boosting accessibility in the restaurant and related industries by improving information about restaurants' accessibility features. By employing DT as a collaborative II process and tool, the ideas resulting from the workshop offered practical solutions for improving access to information on restaurants for PWDs. These solutions can benefit PWDs by improving their dining experiences and promoting greater social inclusion. Restaurant owners and industry leaders are encouraged to adopt the inclusive solutions generated by this workshop and integrate accessibility as a core component of their business models. This could include comprehensive staff training on accessibility, clear communication of restaurant features, and regular updates to ensure facilities meet the needs of PWDs.

Following this, the DT innovation process proved successful during the study, highlighting the immense importance of collaboration between PWDs and nondisabled people.

The workshop's success suggests further use of DT by including PWDs to solve accessibility-related issues. Practical implications and considerations to foster collaboration and inclusion while using DT as an II framework were identified for workshop facilitators and DT practitioners in particular (see Appendix E). Solutions from similar workshops can lead to more effective and sustainable solutions in the restaurant industry – actually, any industry concerned with more profound inclusive practices for PWDs in their services in the public, private, or nonprofit sectors.

Ethical considerations and participant autonomy are interconnected and essential considerations for practitioners involved in working with PWDs in general, particularly DT facilitators, as is the case here. The study set ethical considerations as a priority. It employed means like clear and accessible communication and ways or platforms of communication, prioritising participant independence, researching individual needs of PWDs, and providing assistance to PWDs as needed, with a clear understanding of where assistance and accommodations were necessary – of course, with their consent. These ways of working ensured that the DT workshop was conducted respectfully and inclusively, with a clear focus on the well-being and dignity of all participants.

Furthermore, the research and its learnings augment practical innovations for accessibility in general, benefitting practitioners, nonprofits, or businesses involved in promoting the inclusion of PWDs. By emphasising the need for inclusive design practices and collaborative efforts, the study offers actionable insights for boosting accessibility in different industries, including restaurants.

Disability advocates concerned with policy reform and enablement can use this study's findings to strengthen their arguments and gauge PWDs' sentiments about current accessibility policies in the South African context.

In the same light, it is also recommended that hospitality-focussed communication practitioners conceptualise and execute strong sentiment campaigns to try to change perceptions about the impact of policy and drive awareness among restaurant owners to change this frustrating reality and perceptions.

The study ultimately campaigns to develop and study collaborative processes that accelerate II practices, by involving PWDs. This research has practical benefits, such as bringing together different skills, collaboration across different fields, and conceiving new ideas to solve accessibility problems in restaurants and other industries.

In addition, thanks to PWDs' participation in this study, it was found that accessibility cannot fully be achieved without an enforceable and mainstreamed policy, similar to anti-smoking legislation. It can, therefore, be a vital consideration for disability advocates and policy-makers in the restaurant and tourism industries to consider how existing policies can become more enforceable and for marketing or communication professionals to establish a way to gain mainstream attention.

In sum, this study focuses on the impact of inclusive practices, collaboration between PWDs and nondisabled people, ethical considerations, and innovative solutions in promoting social inclusion and accessibility for PWDs in restaurants and other industries. In line with the pro-practice nature of this II MPhil programme, the most significant practical contribution is the researchers' Inclusive Innovation Praxis Model: A Facilitators' Guide towards Accessibility in Design Thinking (Appendix E). This praxis model offers practical advice for DT facilitator's workshops that bring together PWDs and those without. The guidelines are particularly relevant for workshops that promote social change or develop innovative solutions involving PWDs in the creative process.

6. 4 In closing

This case study's findings are relevant in its potential broader impact on social inclusion in the DT process, disability studies, and its learnings for II practices in general. The study's findings engage with implications for academic discourse, have practical applications (see Appendix E), and ultimately aim to drive societal impact with these practical applications. These factors highlight this case study's importance, especially in contributing to the understanding of collaboration between PWDs and nondisabled people in the DT process. This study's implications for academic discourse are multi-dimensional. Not only does it provide insights into the collaboration between PWDs and nondisabled people in DT, but it also contributes to a nuanced understanding of how II practices can be used to address accessibility challenges, in this case, in the restaurant and related information or communications industries. In addition, the study's investigation of ways to promote trust and identify barriers to collaboration within the DT process adds to the academic discourse on trust and collaboration. These findings can also expand academic discussions on II practices and collaborative approaches.

Furthermore, the findings have implications for disability studies, notably in the context of social inclusion and accessibility. In addition, by highlighting the views and experiences of PWDs and nondisabled people, the study adds to the academic discourse on disability rights, equality, and empowerment. By centering the experiences of PWDs in both the design and implementation of accessibility solutions, this study advances the argument that disability studies must focus not only on theoretical discourse but also on practical, actionable outcomes. The integration of PWDs as co-designers, rather than mere subjects of research, represents a critical shift in how disability issues are approached within academic and practical contexts.

In sum, the implications for academic discourse include contributions on II, trust, collaboration, and social inclusion, located within disability studies and the restaurant industry.

The study is significant as it grapples with accessibility to promote and prioritise social inclusion for PWDs in restaurants through a DT workshop. This setup provided a rich and iterative learning experience among participants, casting light on barriers and enablers to make information on restaurants' accessibility more readily available, which could subsequently remove a critical barrier to the social inclusion of PWDs, as mandated by international and local policies and legislation (Republic of South Africa, 1997; United Nations, 2006).

By researching collaboration within a DT process, the study aimed to ascertain trust-building factors such as working together on a real-world problem, creating a team charter, a continual learning environment, a willingness to be vulnerable and honest, and acts of assistance. The study also researched barriers to collaboration, which included factors like being dismissive, not prioritising accessibility, communication difficulties, a lack of awareness and understanding of diverse needs, time constraints, and a perception of uneven participation levels. These findings offer significant insights for practitioners and stakeholders in the restaurant and broader hospitality or tourism sectors to avoid potential pitfalls and stimulate trust and optimal collaboration that could provide greater access to PWDs in these industries.

The study highlights the importance of II practices and DT in addressing accessibility challenges and incorporating diverse perspectives to establish inclusive and welcoming environments. Most significantly, the research offers actionable guidelines for DT practitioners or related collaboration professionals (see Appendix E), organisations, and policy-makers to advance accessibility, social inclusion, and diversity within the restaurant sector, in an attempt to create more inclusive spaces for PWDs.

The study notes and responds to various limitations and suggests future research areas. These future research opportunities involve the need for larger sample sizes, longitudinal studies to assess the long-term impacts of DT, discovering the use of technology in

collaborative efforts, investigating cultural influences, examining policy frameworks, and understanding the role of diversity in DT processes.

In sum, this study emphasises the importance of collaborative efforts in promoting accessibility and social inclusion for PWDs. By ensuring accessibility through continuous consultation of PWDs and embracing diversity and strong representation of PWDs, workshop practitioners can create a welcoming environment, overcome barriers to collaboration, and ultimately foster trust between PWDs and their nondisabled counterparts. Through harnessing II methods like DT, a more inclusive society with equal access to opportunities, resources, and information can be created – a critical factor in accelerating the access of PWDs and other disenfranchised communities.

6.5 Personal Reflection

This MPhil in II was on my radar for over two years before officially starting the journey at the beginning of 2022. In my work as co-founder of Planet O, an organisation that advocates and enables better information for PWDs in South African restaurants, I have been grappling with accessibility, shamefully lacking facilities, and poor visibility of accessibility features since 2019. An unexpectedly deep-rooted friendship with a paralysed man, along with another friend who had a deaf grandfather, sparked this journey. It has been a long and sometimes slow process of learning – deep learning – and it just reminded me that you don't know what you just don't know. My most profound lesson thus far was to ask questions before assuming anything instead of looking bizarre, out of place, or uninformed.

I similarly approached the MPhil research process. It was slow and conversational learning. My appreciation for DT comes from a leadership and innovation programme I did in 2021 at my previous employer, Media24, called the Future Skills Programme. The incredibly

satisfying feeling of a tangible and practical outcome of its DT component sparked my curiosity to study the process further. Already well into the MPhil journey, towards the end of 2022, I attended a D.confestival hosted by UCT's Hasso Plattner d.school Afrika. The event led to a richer understanding of DT nuances and critiques, and, most importantly, reconnected me with my previous facilitator and other practitioners concerned with DT and the inclusion of PWDs.

I knew the anchor of my dissertation depended on people showing up for a two-day DT workshop, which I realised would be a feat in itself. Excluding my immediate network, who mostly knew what I intended to learn and understood the challenge, I heavily underestimated the time commitment I demanded of working people who already work five days a week. From the nondisabled participants to the PWDs' point of view, it was a demanding request to "sacrifice" two days of their lives. At times, gathering and confirming design teams was a relentless effort of reaching out and repeating everything to strangers who might relate to the vision and the cause. A significant challenge was people cancelling the event due to other commitments or illnesses and having to find the right mix and composition of people. The most important benefit of the time commitment was that it resulted in the participation of very committed and highly engaged teams.

As I am primarily engaged at Planet O with people who have mobility and visual impairments, I had a more nuanced understanding of the challenges of PWDs with visual impairments than deaf or hard-of-hearing people, which made the adaptations and grasping of needs a more intense learning process as the event unfolded. It was also in conversation with a friend in the deaf community that I learned the importance of interpreters. This led me to pivot from my original plan to include an interpreter as a participant and fill the role of interpreter instead. In retrospect, my biggest mistake was not alternating between interpreters to ensure continually crisp conversation during the workshop, as I underestimated the physical toll of SASL and the highly physical communication vessel it requires. Here, I also relearnt the benefit

of technology. In a country like South Africa, however, ongoing challenges with access to electricity persist, which can hamper communication significantly. Nonetheless, both an interpreter and technology are critical.

On a personal note, a career change in September 2022 significantly disrupted my work-life balance, affecting my capacity to work on this dissertation due to a delay in productivity. Still, the time-bound nature of the workshop demanded action, which was a powerful tool to accelerate the dissertation process. Another tool in my arsenal was my supervisor's continual reminder to keep moving, even if it was just a sentence a day, which – in hindsight, along with a very time-bound research effort – is the reason I could complete this dissertation in a reasonable timeframe.

During this process, I have grown immensely, not only personally but also professionally. Long-form writing and its clinical iteration process have honed resilience and tenacity within me; embedded considerations on disability inclusion within my direct work environment as a communications practitioner, equipped me with valuable knowledge of accessibility-related challenges and needs in my capacity as a nonprofit co-founder; and brought forward and embedded the process of DT within my skillset, which I hope to practice professionally going forward.

Initially, I needed to fully grasp the impact of thoroughly considering ethical issues and their potential to achieve reasonable inclusion of PWDs. Interviews were included to establish academic rigour. However, the one-on-one interviews in the pre-workshop, particularly with the PWDs, became the roadmap to make the workshop inclusive workshop. In this process, I could establish a blueprint of individual wants, needs, expectations, and assumptions about the event and could adapt and accommodate accordingly. The introductory phase of the workshop's development was also a way to manage ethical considerations and expectations to

thoroughly prepare each participant on what is expected and how they could potentially be excluded.

In some cases, I had longer informal conversations with each participant, which gave me the opportunity to familiarise myself with each person's unique story, abilities, and needs. To gain confidence in the learning process and show my admittedly little knowledge, I started with some PWDs I already had established connections and expanded with people I still needed to learn more of. Even before the formal research began, I had brutally honest conversations with some of the PWDs in my network to confront some of the questions I had about practicalities and challenges surrounding particular disabilities.

The impact of the study was always at the core of my motivation to study II. On a practical front, I was already engaged and committed to improving access to information on restaurants' accessibility features; but during the two-day workshop, each closing session stopped me in my tracks when participants shared thought-provoking reflections on why they were there and how it made them feel to be part of the project. It fuelled my intuition and made me realise that by unlocking these barriers to collaboration, I was contributing to helping PWDs live more engaged and independent social lives. In a way, it served as an affirmation that my research has significant potential for growth and aligns with governing bodies such as the United Nations (2006) CRPD and the South African government (Republic of South Africa, 1997), which explicitly mandate PWDs' right to leisure activities. Participants either seemed to need this or, through this engagement, became adamant that change towards greater social inclusion of PWDs is essential.

In sum, I believe future experiments and action-related research on improving DT and other co-design methods and processes could set the tone and equip innovators with the skills to understand the nuances and multifaceted nature of the disability community and enable the inclusion of PWDs in problem-solving to work towards a more inclusive society for all.

6.6 Final Remarks

In closing, the importance of collaboration between PWDs and nondisabled people within the context of DT is ostensibly clear. This study illuminates the vital significance of accessibility, diversity, trust, resilience, and synergy in collaborative efforts between PWDs and nondisabled people, within the context of a DT workshop aimed at improving information about restaurants' accessibility features in the South African restaurant industry. Through continual conversations and engagement, participants highlighted the need to address barriers to accessibility, campaign for accommodations and assistance, and policy and legislative enforcement to bolster accessibility narratives.

Diversity emerged as integral to the efficacy of teamwork, with discussions highlighting the significance of multiple perspectives in collaborative efforts. Trust-building mechanisms were critical, calling for practices that foster inclusivity. Additionally, resilience was a crucial factor in the outcome of the collective endeavour, promoting positive attitudes and addressing vulnerabilities to advance inclusivity. The study illuminates the influence that synergy and effective communication could have in enhancing information on restaurants' accessibility features, offering unique insights for stakeholders and practitioners striving to improve accessibility and social inclusion of PWDs within the restaurant industry and beyond.

The study's investigation into the collaboration and innovation process of PWDs and nondisabled participants in DT as an II process holds wide-ranging significance for social inclusion, disability studies, and II practices. Casting light on the multifaceted nature of collaboration and trust-building contributes to the intricate academic discourse on II, trust, and social inclusion, particularly within the realm of disability studies and the restaurant industry.

Furthermore, in practice, the study offers actionable guidance for DT facilitators and relevant stakeholders in the restaurant and communications industries. By accentuating

collaboration, trust-building, and resilience, practitioners are empowered to improve restaurant accessibility features by communicating them effectively. This study creates a blueprint for more inclusive environments, and campaigns for diversity and social inclusion within the restaurant sector by harnassing II practices and DT methodologies (see Appendix E).

Recognising the study's limitations and proposing future research avenues, it becomes evident that there is still much ground to cover in advancing accessibility for and the social inclusion of PWDs. Acknowledging social change comes through diminishing silos, inclusive collaboration, as well as continual critiquing and analysis of the status quo. By doing so, an inclusive society that ensures equal access to opportunities, resources, and information for all people, regardless of their (dis)ability, could become more than a pipe dream. The restaurant industry, as a cornerstone of social life, holds the potential to lead the way in promoting inclusive practices. By adopting the study's recommendations, the industry can set a precedent for other sectors, proving that accessibility is not only achievable but essential for a truly inclusive society.

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]

Appendix A

Student: Annami Mailovich
Student number:
MLVANN002

INTERVIEW QUESTIONS

Questions for first interview: Pre-workshop exploratory interview

1. Describe your needs/understanding in terms of accessibility
2. What do you expect will be the challenges between you and a disabled/nondisabled person when you are working together in a team?
3. Why are you contributing to this research?
4. What are the assumptions you make about nondisabled people?
5. What has been your experience when you and a disabled/nondisabled person work together for the first time?
6. How can collaboration between nondisabled and disabled people be made easier?
7. What do you think is the importance of teamwork?
8. Why should/shouldn't disabled and nondisabled people collaborate?

Questions for the second interview: post-workshop debrief interview

1. Were your needs addressed? If yes, how was it addressed? I not, how can it be addressed in the future?
2. What were your expectations of the DT workshop?
3. How did reality compare with your expectations of the event?
4. What were the challenges between you and nondisabled/disabled people when you were working together as a team?
5. How did it make you feel to contribute towards a common goal to address people with disabilities' accessibility needs?
6. Describe activities that you think created a sense of trust among the team
7. How has the workshop experience influenced your perceptions of nondisabled or disabled people?
8. What did you learn about PWD/non-disabled people?
9. What were the highlights and lowlights teamwork in the workshop?

Appendix B

This was a detailed and 'described' programme of the event provided to participants for the first day of the workshop. The purpose of this was twofold: It was a printed reference for each team to refer to as they went along, but it was specifically created to accommodate PWD with visual impairments following their request on this during the pre-interviews. It was in plain text to make it as accessible and clear as possible.

Workshop: Disability and social inclusion

Day 1 Agenda

09:00 Welcome and overview

09:15 Check-in

09:40 Team Charter

10:10 Understand the challenge Statement

10:20 Mindwash

10:40 Semantic analysis

11:00 Break

11:15 Stakeholder charette

11:30 Empathy map

12:00 Enter observation: Come up with interview questions

12:20 Lunch

13:00 Yellow A (Andile, interpreter in group)

13:00 Yellow B (*Sarie, restaurant owner)

13:00 Green A (*Nikki)

13:00 Green B (*Kagiso, on Teams)

13:30 Yellow A (*Kagiso, must have text to screen -*Justin in this group)

13:30 Yellow B (*Nikki)

13:30 Green A (*Andile, interpreter moves to the other group)

13:30 Green B (*Sarie, restaurant owner)

14:00 Synthesis

14:30 Body break

14:45 POV statement & reframe

15:30 Check-out

16:00 Close of day

09:00 Welcome and overview

Welcome the participants and give a roundup about how the day will unfold. Direct people to the bathrooms and indicate there will be fruit, snacks, water and some other refreshments available.

<u>Key notes for participants:</u>

You will work in a self-managed team.

This means there is no hierarchy/specific leader.

Each team must assign a timekeeper, as this is a time-boxed exercise.

09:15 Check-in

Participants introduce themselves. My name is xxx, what made me say yes to this and what is my superpower? Each person gets a turn to answer these questions.

09:40 Team Charter

Each design team will create a Team Charter, which is a social contract outlining how team members prefer to work together and what they expect from each other. This allows everyone to ensure that their needs and preferences are clear before we begin the design challenge.

Prompts on the team charter comprise:

Our wishes

Our values

Our goals

Our expectations

Our needs

Please do

Please don't do

10:10 Understand the challenge statement

Design a sustainable solution to provide people with disabilities access to detailed information about restaurants' accessibility features.

10:20 Mindwash

Let's explore the problem together! Share your initial thoughts, feelings, and experiences, and learn from one another. Take the time you need to express your views, as this is an opportunity to demonstrate your understanding of the problem. Divide the paper into four quadrants and label them: Assumptions, Experiences, First Impressions/Ideas, and Questions.

Set a 10-minute time limit, and when the time is up, each team member will explain their contributions in more detail. Other teammates can ask questions to ensure understanding. Once everyone has spoken, the team can discuss any comments

10:40 Semantic analysis

Dig deeper into the meaning of the challenge and identify how we interpret concepts differently. Write the challenge in the center of a piece of paper and identify its key phrases around it. Team members can write their understanding of each concept on sticky notes and place them next to the concepts. Begin by silently writing for 10 minutes. Then, each teammate explains their thoughts, and teammates can ask for further clarification if needed.

11:00 Body break

11:15 Stakeholder charette

Consider all the people and institutions involved in the challenge. Who are they, what are their concerns, and what roles do they play? What would they say?

Create a stakeholder charette with three columns:

a. The stakeholder
b. A typical quote from the identified stakeholder
c. A key concern in relation to this challenge.

As a team, write a sticky note for each of the other two columns. Team members are encouraged to ask questions if anything is unclear.

11:30 Empathy map

Put yourself in the shoes of the user you are designing for. How are they feeling? What might they be thinking or doing in the context of the challenge? What might they say to other people about it? What are their struggles or what will they gain by this engagement?

Take 15 minutes to jot down as many answers as possible to these questions on sticky notes, then place them onto the "Empathy Map."

a. How would you describe your core users?
b. What do you think they might be thinking and feeling?
c. What do you think their typical experience has been so far?
d. What might they be saying? How might they be acting?
e. What information might they have? What might they have been told?
f. What do you think are their main concerns?
g. What do you think makes them happy?

After the silent writing, each teammate explains his/her/their thoughts and teammates can ask for further clarification if necessary.

12:00 Enter observation: Come up with interview questions

You will soon be conducting interviews with real users to understand their lived experience of the challenge. Avoid assuming you know anything about their experience. Develop a set of open-ended questions that will elicit stories from the users. Instead of asking 'yes/no' questions, encourage them to share memories, walk you through an experience, or describe how they felt. Explore all aspects you are curious about regarding this user.

a. Identify topics you want to explore in the interview.
b. Construct open-ended questions related to these topics.
c. Create an interview question sheet to guide the interview, allowing for opportunities to delve deeper into the answers.
d. Decide on the roles each team member will fulfill during the interview (interviewer, observer, and note-taker).

<u>Tips for the interview:</u>

a. Leave space for stories.
b. Ask why?
c. One question at a time.
d. Pay attention to subtext (body language, expression, emotion in the voice, etc.).
e. Use open questions.

f. Roll with the silences.
g. Ask simple and short questions.
h. Search for inconsistencies.
i. Ask neutral questions.

Question types:

Get information:

a. “Tell me about...”
b. “How often do you...”
c. “Can you walk me through the process of...”
d. “How has ... changed over time?”
e. “What I hear you saying is xxx. Is that right?”

Go deeper:

a. “Tell me more about that”
b. “Why is that?”
c. “Why did you do/say/think that?”
d. “How did that feel for you?”

Explore new ideas:

a. “What would you think/how would you feel if...?”
b. “If you had a magic wand, what would you most like to change about...?”
c. “What would your dream come true to be about...?”

12:20 Lunch

13:00 Interviews

Ensure that each team member has a designated role (interviewer, note-taker, and observer who also takes notes). Use one paper per interview session and the same color of sticky notes for each interview.

Divide into two groups of three members each. Yellow Team A and B will interview Andile (A) and Sally (B), while Green Team A and B will interview Bongani (A) and Toni (B).

After 30 minutes, Yellow Team A and B will interview Bongani (A) and Toni (B), and Green Team A and B will interview Andile (A) and Sally (B).

During the interviews, one member will ask the questions, another will write down notes, and the remaining member will observe.

14:00 Synthesis

Analyse the patterns that have emerged from your interviews. Identify emerging themes, contradictions, and any surprises that stood out. Use the synthesis board to organise these different themes in clusters, utilising the colour-coding from your interviews. If there are any contradictions, make them clear, possibly by drawing a line between them.

Review the data and pinpoint key quotes that stood out to you. Highlight these sticky notes with a tag containing your name. Take note of what you find most interesting or surprising.

14:30 Body break

14:45 POV statement & reframe

You have now identified themes and quotes that stood out. Now dig deeper by following the reframing template. Here we want to create a sentence that will capture the human need against the context of the problem.

a. Choose a theme: **What story is coming through here?**
b. Insert interesting quote from user: **Who said this?**
c. What do you think the main issue/problem is that they have?
d. **So, what key insight did your team gain from this user research?**
e. If this is true, what do you think your user needs?
f. **Dig deeper...why do they need this? What's the real, human-centered need? They need a way to...**

OUR USER (B) NEEDS A WAY TO (F) BECAUSE IN THEIR WORLD (D)

Directions:

As a team, work through the analysis templates on the right, one at a time. Start at the top of the ladder and follow the prompts all the way down.

a. Once you have completed the analysis template, follow the colour-coded arrows to drag the content you have created into the POV framework and try to create one coherent sentence that captures the essence of what you have been working on.
b. Now have another go using the other identical templates (you can create up to 3 POV sentences).
c. Choose one POV statement to work on and convert this into a question starting with "How might we...".

15:30 Check-out

16:00 Close of day

Appendix C

Similar to the contents of Appendix B, this document was created to assist PWD with visual impairments in having a digital copy in hand to follow along the DT process on their respective devices, including personal computers and smartphones, to bolster accessibility.

Workshop: Disability and Social Inclusion

Day 2 Agenda

09:00 Check-in

09:30 Rethink POV

09:45 Ideation kicks off

Silent brain storm

Building on each other's ideas

Get out of your head

10:20 Sorting ideas

10:40 Prioritise ideas

10:50 Select

11:00 Body break

11:15 First Prototyping - idea dashboard/press release

11:40 OK, DO the prototype (Wireframe/Story board/User Journey Map)

12:20 Prep for user testing (work out questions)

12:45 Lunch

13:30 Yellow A (*Yolisa)

13:30 Yellow B (*Sarie, restaurant owner)

13:30 Green A (*Nikki)

13:30 Green B (*Kagiso)

14:00 Yellow A (*Kagiso)

14:00 Yellow B (*Nikki)

14:00 Green A (*Yolisa)

14:00 Green B (*Sarie, restaurant owner)

14:30 Feedback grid & iteration grid

15:10 Yellow Team

15:20 Green Team

15:30 Check-out

16:00 Close of day

09:00 Check-in

Opening circle: How are you feeling this morning? What struck you yesterday?

09:30 Rethink POV

Check if your POV adheres to the research question. What does your current POV try to solve? Is it focussed on access to information, or improving restaurant design?

09:45 Ideation kicks off

Steps:

a. Silent brainstorm
b. Building on each other's ideas
c. Get out of your head

Start with silent brainstorming. Set the timer for 5 minutes and write as fast as you can. Use as many sticky notes as possible! After this, each team member picks his/her/their favourite ideas and puts it at the top of each column and then takes another 10 minutes and puts additional ideas that will build on this in each column. Each person then gets the chance to explain their ideas. After this, go crazy and come up with a few wild ideas underneath each of these questions: How would this work on Mars? What if you had magical powers? The World Bank just gave you an unlimited budget; now what? All humans have been merged with computers – now what?

10:20 Sort your ideas, prioritise and select the idea you will prototype

See which themes emerge. Just like with the previous day's synthesis, cluster-related ideas. After sorting your ideas, each person gets three votes, mark the sticky notes with your initials.

Use the given prioritisation framework to help you to narrow down your ideas them down until you land on one idea perhaps a "cluster" of ideas that you would like to take forward into prototyping.

11:00 Body break

11:15 Prototyping – focus on idea dashboard/press release

Start with either the idea dashboard or the press release and come up with a concept.
Here are the questions and some example text/prompts for both the idea dashboard and the press release:

<u>Idea Dashboard</u>

Describe your idea in one sentence:

Example: A web platform which connects undergraduates, graduates job seekers, to industry professionals and curates in-demand learning experiences for their professions

What is it for?

Example: Undergraduates and Graduates Industry professionals

Why will they love it?

Example: They'll be able to study the most in-demand skills on demand and connect with industry professionals to learn the ins and outs.

How does it work?

Example: Automated scripts scrape the most popular recruitment websites for skills information as possible. Using this information most in-demand lists are created for each profession. These in-demand lists are then used by our team to curate learning experiences and make these available to our users. These learning experiences make use of external existing platforms, such as Udemy or Masterclass.

Industry professionals can engage with users in an open forum discussion in a Q&A style.

What features does it have?

Example: The platform has access to the most in-demand skills for each profession, using scraped recruitment website information to curate this list. In-demand skills have learning experiences curated by our team, using platforms such as Udemy or Masterclass. Industry professionals can offer to connect with users to answer questions or offer insights into their workplace.

What benefits does it provide to the user?

Example: By accessing curated learning experiences of the most in-demand skills they'll have a competitive edge when it comes to job applications in the future. They'll have connected with industry professionals to gain insight into the expectations of their workplace.

Press Release

Headline - [COMPANY] announces [SERVICE/TECHNOLOGY/TOOL] to enable [CUSTOMER] to [BENEFIT STATEMENT]

INTRO PARAGRAPH - 2 or 3 sentences to detail the USERS served and what is being launched (where, when, how)

USER QUOTE + PAIN POINT + IMPACT - Describe the user's pain point, including a typical quote from your user and the goal they need to accomplish.

Then describe how the product you launched helps them achieve their goals.

HOW TO USE THE PRODUCT AND WHERE YOU CAN LEARN MORE - Describe what your customer must do to use the product. Give enough detail that it gives them confidence and motivation to try it out.

11:40 Create a prototype user can engage with

Now, you must visualise or build something that your user can see/smell/touch or interact with. This needs to indicate how this idea will play out. If, for instance, it is a tech solution, you will likely do a wireframe. If it is a process, you will likely do a user journey map or even a storyboard. But here, you can really be creative.

12:20 Prepare for testing

Based on the problem you are solving, come up with questions you can use to find out how to improve your product/solution. It is equally important to find out what worked and what didn’t work so that you can improve it, but make sure you keep the great bits. Don’t sell the idea/prototype to them. Be open to seeing where the user leads you and ask for constructive feedback. Get them to explore/play with the prototype. Think of your idea/prototype as a suggestion and ask them open questions about what they think could work or not work at

various stages. Ask them for ideas and to tell you if anything isn't clear. Remember to share your POV statement when you introduce yourself. Just like yesterday, remember to define your roles as interviewer, observer, and note-taker and post all your notes on the interview sheet.

Here are some things to think about while you come up with your interview questions.

a. What new information do you need from your user?
b. Which aspects of your prototype do you want to test?
c. How will you demonstrate your prototype to the user?
d. What questions do you hope they ask?

You need to be specific in your questions, but it also must be open-ended. Here are some questions to help guide you in which direction to take your questions:

How would you feel at this point?

What would you struggle with here?'

Is there anything else you feel would have supported?

Can you think of a way this would fail?

What do you think would happen next?

Do you have any suggestions to make this better?

12:45 Lunch

13:30 Interviews

Please go into the same smaller groups as yesterday. You will be interviewing the same people you did yesterday.

13:30 Yellow A (*Yolisa)

13:30 Yellow B (*Maude, restaurant owner)

13:30 Green A (*Nikki)

13:30 Green B (*Kagiso)

14:00 Yellow A (*Kagiso)

14:00 Yellow B (*Nikki)

14:00 Green A (*Sarie, restaurant owner)

14:00 Green B (*Yolisa)

14:30 Feedback grid & Iteration grid

Sort through the feedback from your users. After this, you will categorise it into actions in an iterations grid. First, paste the relevant sticky notes into the feedback grid into these quadrants: Things they liked, things they would change, questions they asked and ideas they had.

Hopefully, your prototype resonated with your users and may only need some tweaking. You can now use the iteration grid and move sticky notes across into these four blocks:

Remain (What should be kept?)

Reinforce (What should be strengthened?)

Rebuild (What should be changed?)

Reduce (What should be removed?)

If the idea/product did not resonate with the user, this is also useful and tells you that you may have to go to an earlier phase of the process and perhaps even explore a different idea.

Please take a break as you have a gap now but do use the time you need to come up with a creative presentation to tell us about your idea after taking the tweaks into account. You have a maximum of 10 minutes to present your idea.

Things to share: Who was the user you chose, what were the main needs you identified, and what was your POV statement? Why did you choose it? Show us how it works and what would you think can happen with this in the future. You can be Hollywood-dramatic, musical, and wild – as long as we know what you have been working on. Enjoy this!

15:10 Yellow Team (10 min presenting, 5 min questions)

15:25 Green Team (10 min presenting, 5 min questions)

15:40 Check out

16:00 Close of day

Appendix D
Letter of invitation to research participants

Dear xxx,

I am an MPhil student in II at the University of Cape Town's Graduate School of Business, and I am working on a study looking at "Disability and Social Inclusion: A South African Case Study on Collaborative Outcomes to Improve Information on the Accessibility of Restaurants".

I would like to personally invite you to partake in an engaging co-design workshop where you will be part of a case study where people with disability and non-disabled people collaborate to find a way where information about Cape Town restaurants' accessibility features become more readily available.

How will it work?

Before a two-day co-design workshop (over a weekend), following a DT approach, you will briefly be interviewed to establish your needs and expectations for the two-day engagement. Over a weekend, you will be part of an in-person event where you will be a participant in a "design challenge" and you will contribute and engage in a team-driven workshop towards solving this problem: Within the South African context, people with disabilities are often socially isolated due to poor access to information about social opportunities in which they can partake. Subsequently, people with disabilities often do not know where to have an active and engaging social life in a society where there are many physical barriers to entry such as staircases, a lack of accessible bathrooms or something such as low lighting or high noise volumes.

How will this be documented?

Your short semi-structured interview will be recorded. The process during the DT workshop will be recorded on video but will also be observed by the researcher – who will also co-facilitate the program. Each participant will also be asked to complete a feedback form to document their experiences during the process.

What is the impact I will make?

The South African non-profit organisation, Planet O, of which I am the co-founder, will be testing prototypes/solutions which fit its mandate, which comes from the workshop. This might help them create a truly inclusive platform where people with disabilities can make informed decisions before going to a restaurant so that their needs are well met.

How will this benefit me?

You will be making a practical contribution towards a more inclusive society, gaining a new network of people with similar interests, and gaining practical experience in DT as an innovation and problem-solving approach. On a practical note, lunch and light refreshments will be supplied and transport/transport costs to the venue will be covered.

Please note:

- Your role in this is voluntary
- You have the right to remain anonymous
- Participants have the right to withdraw from the study at any point

Warm regards,
Annami Mailovich

Appendix E

Inclusive Innovation Praxis Model: A Facilitators' Guide towards Accessibility in Design Thinking

This study offers practical guidelines for facilitators planning design thinking (DT) workshops in which people with disabilities (PWDs) and nondisabled people collaborate. These recommendations are well-suited to workshops that aim to drive social change or generate innovative solutions that include PWDs in the innovation process.

Inclusive Innovation and Its Importance

At its core, inclusive innovation (II) empowers and uplifts marginalised communities by enhancing their self-esteem and dignity. For innovation to be truly inclusive, it must enable, empower, and entitle these communities through collaboration. II also tackles problems that traditional institutions and practices cannot address, requiring new ways of acting and societal collaboration. II benefits the disenfranchised as both a process and a performance outcome (George et al., 2012). It, therefore, focusses on how to optimally include PWDs from innovation's inception by equipping DT workshop facilitators and workshop facilitators with tools to bring PWDs and nondisabled counterparts together in a collaborative process.

The Role of Design Thinking in Inclusive Innovation

In addition, DT drives innovation and generates valuable solutions across sectors, including business, law, education, and healthcare (Pande & Vijayakumar Bharathi, 2020). It also has

the potential to address accessibility issues and improve policy comprehension (Heron et al., 2022). It has evolved from a trendy concept to an indispensable innovation tool (Micheli et al., 2019), and it emphasises deep empathy for end-user needs (Greeson et al., 2021). Facilitators could manage this process through empowerment and a strong emphasis on equality through accessibility, established by continually questioning what access entails in its processes. This iterative process is mirrored as participants discover the societal problem it aims to solve.

As a reminder of what DT entails, Tim Brown of IDEO describes DT as a human-centred innovation approach that combines user needs, technological possibilities, and business success (*Human-Centred Innovation*, n.d.). According to the Interaction Design Foundation (2016) DT is an iterative, non-linear process with five phases – empathise, define, ideate, prototype, and test – aimed at understanding users, challenging assumptions, redefining problems, and creating innovative solutions.

This praxis model was born from a South African case study of a DT workshop, as well as the researcher of the study's practical experience as a co-facilitator and workshop designer. The practical outcome of the said study was to give PWDs access to information about restaurants' accessibility features, bringing forward learnings considered by facilitators and team leaders to ignite inclusion, not only in the broader hospitality industry but across industries. The primary purpose of this praxis model, however, is to create a way of problem-solving and driving more inclusive innovations by making the DT process more inclusive and enabling PWDs and nondisabled participants to collaborate with reasonable ease and comfort. Based on DT as an II framework, here are the guidelines for facilitators to consider in their workshop designs, particularly as they prepare DT workshops to solve issues related to disability matters.

Guidelines for the Accessibility of a DT Workshop

Consider access holistically

Co-creation and II with PWDs start with co-designing access and what it means and looks like in a DT context. Creating and fostering accessibility throughout the event is integral – this can entail various components and, like DT, can be an iterative process. It demands engaging with the different PWDs taking part in the workshop individually before the workshop and creating space for conversations about it during the workshop in their respective teams, with the involved PWDs' consent. There are five broad considerations when planning for workshop accessibility:

1. **The physical layout** is a first-tier consideration, as a facilitator plans to host a workshop where PWDs will be present. Examples of such considerations are the physical building layout, ramps, wide enough doors, parking, and other physical considerations like transport to and from the event, safety, space for service animals, as well as taking their biological needs into account, suitable and dignified bathroom facilities, surfaces without hindrances like stairs and loose carpets, and making provision for human guides, in the case of the visually impaired or PWDs with limited mobility. However, it is notable that each PWD often has more complex and individualised needs. It is advisable to ask upfront what each PWD's physical or spatial needs are. Take pictures or videos of the facilities, doors, and surfaces as part of a site recce. It is advisable to sense-check these visually with attending PWDs to ensure individual accessibility needs are met, and there is

reasonable comfort for all participants. Ultimately, the level of assistance can be arranged before the workshop commences.

2. **Communication** can be a critical accessibility enabler to PWDs, and this could require extensive adaptations to the programme. In this instance, a South African Sign Language (SASL) interpreter was necessary. In hindsight, there should have been more interpreters to alternate for this event length, as interpreting is physically strenuous. Similarly, ask upfront what some of the primary access needs are to make sure the facilitator can arrange or provide the correct assistance, but ask relevant PWDs to establish from the workshop's get-go how they would like to be communicated with, as the workshop progresses. Some examples that arose during this workshop include:

    - When you speak, look towards me so that I can read your lips. Do not cover your mouth or look away when you are speaking.
    - Speak slower. I am struggling to interpret your words when you speak too fast.
    - Introduce yourself by name every time you start speaking because I am still learning the sound of your voice.
    - I do not mind if you interrupt me because I cannot see if you are trying to interject politely.
    - Read people's sticky notes with their ideas to me.
    - Ignore my service dog because he gets very excited.

3. **Workshop aids** are very visual in DT. In a pre-workshop conversation with PWDs, explain how the workshop is typically conducted and how the materials are

positioned and used. While the abundance of sticky notes was helpful for deaf or hard-of-hearing participants, it inadvertently excluded participants who were visually impaired. Following pre-workshop conversations, both visually impaired participants asked for digital copies of a programme, with step-by-step instructions on how the programme will unfold, to assist them in following along. They both decided to bring their laptops, and the facilitation team ensured they could access a power source. Explaining the setup and how the workshop will unfold as part of the facilitator preparation is therefore critical to making the process reasonably accessible, ultimately ensuring continuous engagement and buy-in and gaining valuable input from all participants.

4. **Furniture and spatial use** are key considerations when planning for a more accessible workshop. While DT can typically be very dynamic and move away from traditional tables and chairs, strongly relying on wall space and more free-moving actions, lower tables with ample space to move into, are essential to be fully inclusive to people in wheelchairs. Also, as established in prior conversations, both participants in wheelchairs noted that they would need assistance with reaching far or being unable to read if sticky notes and other workshop aids were too high up on a wall. However, PWDs were mainly happy to address the workshop as a team effort and delegated tasks if they needed help. It unfolded organically as the facilitation team tried to mitigate access issues for them by putting posters on the table. For both teams, however, it organically led to both wall and table usage, with participants self-organising how they wanted to navigate. Accommodations to include everyone organically flowed between PWDs and their nondisabled counterparts. It was, however, essential to have tables and access to power points, as visually-impaired participants needed a space to set up their laptops.

5. **Acts of assistance** are vital to greater access. Although the independence and agency of PWDs are equally essential considerations and were strongly prioritised throughout this effort, an element of assistance was required. Again, it is essential to ask upfront if assistance is needed. Teams typically organically assist one another, but a facilitator needs to factor in things like serving coffee or food and arranging for someone to take ownership of being a human guide for a blind participant who is unfamiliar with the setup to ensure comfort as soon as possible. Similarly, it is essential that participants immediately communicate their individual needs early in the workshop. In this case, a "team charter" was drawn up to focus on everybody's needs, wants, and values. It ensured a solid social and working rapport throughout the workshop and served as a significant equaliser among participants. In the ice-breaker phase, the facilitators successfully asked the question: What is your superpower? It focussed on all participants' strengths and immediately eradicated any reference to disability, which made the programme more inclusive. It is, therefore, essential to create equal opportunities to communicate wants and needs and establish relatability among one another.

Practical Considerations for Practitioners

1. **Representation matters:** Although DT allows input from its affected stakeholders, it was discovered in this study that it is far more powerful to include the disenfranchised community from the beginning because it fosters agency with authentic and lived experiences. It is also helpful to include a mix of participants from diverse backgrounds and skill sets to ensure a balanced view. During this study, it emerged that in the case of disability, it sped up the awareness of the teams

to include active, nondisabled allies and friends in their teams, as their lived experiences proved to be insightful, even though it was from an outsider's perspective.

2. **Be flexible:** The DT process can effectively enable a researcher to gather profound and genuine insights into issues if it is aligned with the problem statement and directly incorporates the involved people into the design process. However, flexibility is critical to the process's success, as there are numerous considerations, time limitations, and communication hurdles that need to be assessed and responded to on a case-by-case basis. Plan beforehand how and when to cut corners, to be prepared to adjust to the event's time constraints. Identify key critical steps to include in the planned workshop and base decisions on those to skip steps if time is running out. Continually checking in with each team's needs is a valuable tool to assess whether facilitators need to pivot or continue their planned workshop roadmap. It might be necessary to explain steps asynchronously, as the teams might have different needs to accommodate and adapt to the process.
3. **Relate beyond empathy:** Do not compromise on ice-breakers and DT's empathy phase – it ensures awareness of accessibility needs and trust, which is a requirement to construct a solid foundation before the formal DT framework commences. Allow equal "airtime" for all participants because the sharing of voices and different realities can become a very impactful equaliser among participants, who might find that they can relate to each other and, therefore, that they can begin the workshop on equal footing. In this study, these phases also drove disability awareness, and following it, PWDs and nondisabled participants both found their feet in a self-correcting and interactive learning experience.

4. **Building trust:** Prioritise establishing trust by getting to know one another as soon as possible. With II solving societal issues, a sense of purpose can aid the workshop. The fact that DT participants interact with one another and need to work together over a set period of time creates a continual co-learning environment, which can foster trust among participants. Creating spaces and conversations where participants can be vulnerable and honest further contributes to trust in the team. In addition, "acts of assistance" can also build trust, and in planning for a workshop, this must be factored into the tasks assigned to participants. Finally, do not underestimate the power of free time, as social interactions were often cited as a significant building block towards group trust.

Conclusion

These guidelines ultimately aim to enhance inclusivity in the DT process and, in particular, equip facilitators with practical insight, including five broad accessibility considerations and other practical lessons to inform their workshop designs. One of the most significant barriers to overcome in a DT workshop where PWDs and nondisabled participants collaborate is inaccessibility. This study shows how accessibility and diversity contribute together to cultivate a welcoming environment – a dismissive attitude, communication difficulties, a lack of awareness and understanding of diverse needs, and time constraints also need to be considered and overcome. Equipped with the above toolkit, DT practitioners and other collaborative leaders can be prepared to drive inclusive innovation in DT.