


Article

Aspects of Designing Inclusively from Practitioner Perspectives

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Abstract: The concept of inclusion in design is increasingly well known and often recognizes value in a greater diversity of people when creating new buildings, spaces, products, and services. Still, uptake is said to be limited in practice. The theoretical landscape provides several definitions and concerns, but they are often paradoxical. Rather than disentangle theory, this research turns to practitioners who design inclusively. This research explores the ways people advocate for inclusion in design projects, prevailing aspects in the negotiations within multi-stakeholder projects, the motivations and mindsets that drive these aspects, and the opportunities they create for the improved uptake of inclusion. Through discussions (semi-structured interviews) with six individuals from design and architecture, aspects of inclusion from practice emerged. The data were clustered thematically and organized into three parts: general project development, working with others as a team, and designing inclusively. These explorations highlight the value of including a more diverse group of individuals in the negotiations of a design project, the value of bespoke designs, the ever-evolving nature of inclusion, the different ways to present a valuable business case, and the influence of team dynamics. Conflicting perspectives on effective uptake prevail in both practice and theory. Future research will inquire on the most prevalent and valuable aspects of inclusion and their placement within current development processes.



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1. Introduction

Inclusion within design project development processes can improve the quality of design outcomes by addressing the needs of more people, especially those usually marginalized or outcast, by disabling mismatches between their abilities and a design [1]. Designing inclusively would cast a wider net by seeing how “disability arises from interactions with the surrounding environment that are amenable to design and structural interventions, and not inherently from capability levels, health status, or associated degrees of impairment” [2] (p. 1). In this way, disability is understood as a contextual condition which varies from one situation and person to the next. This social model places responsibility on those (re)building spaces and objects since inabilities are “thrust upon (those who are disabled) by inadequate design, inconsiderate services and environments, and cultural stereotype” [2] (p. 1). This approach to designing can help tackle social inequalities, wherein “good design enables, bad design disables” [3] (p. 1).

Efforts to improve the social impact, welfare, and quality of life of often underrepresented voices have not gone unnoticed in mainstream society and design practice. Many policies—such as The Americans with Disabilities Act (1990), the Humans Rights Act (1998), the Mental Capacity Act (2005), the Adults with Incapacity Act (2006), and the Equality Act (2010)—outline the needs of users with diverse (dis)abilities or personal conditions that are often subject to marginalization. These policies propose regulations and guidelines for more inclusive solutions. There are many different approaches outlined in design theory that involve users (participants, citizens) and their concerns in the development of new projects. Sometimes, they are called Inclusive Design, Participatory Design, or Universal Design, or can other times be referred to as Appropriate design, Design for all, or Feminist

design, to name a few [4]. While there are different approaches each with their own distinct qualities, they all share in the overarching goal of better representing and embodying the needs of those (often unheard or marginalised) who will engage with the final design. Although the different approaches, activities, and policies can seem familiar, there are reports of a lack of uptake in design practice [5]. As a result, people continue to be outcast or marginalized in their everyday lives. A number of criticisms from research attempt to explain why this may happen, whilst also proposing new definitions or understandings of the concepts along the way. This paper advances that some problems may stem from an over-entangled theoretical landscape.

While most approaches to inclusion work to better represent marginalized groups, they do so with arguably different intentions, means, and outcomes. The definitions and characteristics of each approach continue to evolve and become more entwined [6]. For instance, Participatory Design and Inclusive Design practice decision making, but do so quite differently. Sanoff explains that Participatory Design can “propose to engage in deliberation or build deliberative capacity whereby citizens work towards collective outcomes (. . .) which advocate (for) democratic problem-solving initiatives” [7] (p. 13). Sanoff sees decision making as a collective consensus that represents a majority. According to Coleman [8], Inclusive Design emerged from finding ways to resolve the negative perceptions of age and disability in society. The Design Council [9] explained that a major trend in the uptake of Inclusive Design is “the growing movement to integrate disabled people into mainstream society”. This positions Inclusive Design as an approach that advocates for a specific marginalized minority, rather than achieving consensus across broader society. As Tonkinwise [10] mentioned, for Inclusive Design to succeed, designers are required to make sometimes undemocratic and exclusionary decisions. They must thoughtfully regulate who is involved (or not), and which objectives are prioritized. While both Participatory and Inclusive Design advocate for the fair treatment of a group, their approaches are incompatible—to represent a marginalized majority and a marginalized minority. In this way, the theoretical landscape creates a paradox wherein user involvement through democratic decision making is both suitable and unsuitable to better inclusion.

In another example, Clarkson and Coleman reported that Inclusive Design “sought to link design and social need, and to challenge misguided but deep-seated assumptions about ageing, disability and social equality” [2] (p. 2). More recently, an understanding of Inclusive Design has evolved into a way to “ensure that (. . .] products and services address the needs of the widest possible audience, irrespective of age or ability” [11] (p. 1). Although this definition broadens the number of people who may benefit from a design, researchers such as Hamraie [12] criticize that this kind of generalization downplays the significance of the approach and in fact outcasts disability. It is also suggested that Inclusive Design is semantic and interchangeable with other approaches [5]. However, this outlook conflates distinct features of Inclusive Design with Universal Design and Design for All. In doing so, some unrealistic expectations of Inclusive Design emerge. For instance, Design for All, which “aims to enable all people to have equal opportunities to participate in every aspect of society”, is said to be achieved once “everything that is designed and made by people to be used by people must be accessible, convenient for everyone in society to use and responsive to evolving human diversity” [5] (p. 509). The concept of ‘convenience for every person’ no longer figures disability as a key part of the approach. This complicates Inclusive Design by asking to address an infinitely diverse range of user abilities, issues, and preferences within a universally ‘convenient’ solution. Equally, it is not really defined how these equal opportunities take form. Some agree that users and their lived experiences should play a central, direct, and continuous role in the arbitration of a design process, yet the level of direct and continuous interaction is largely debated [13]. Although they may have expertise in their lived experience, this does not readily translate into design objectives and solutions. Equally, participants become disenchanted when their expectations and contributions do not, or no longer, align with the proposed participation program [7].

Some researchers have already begun to explore and report on the practical implications of designing inclusively. Through surveying practitioners, it was found that they promote uptake by appealing to a business case: “they considered numbers (business case financial value) would be a strong argument to be presented to their clients. They can use estimates of exclusion numbers to persuade their clients to adopt a more inclusive solution” [14] (p. 114). This broadens the scope to include both the positive impacts of including marginalized groups and the negative impacts of excluding them. Yet, while architects may advocate for user participation to assess the inclusive value of prototypes, many do not reflect on or consider the value of involvement early on: “Architects were generally aware that the end-user perspective was often missing, but the absence of users and their voice was not really questioned” [15] (p. 204). In this way, others have advocated for the early and active participation of as many people on different scales of the built environment under a social model of disability: disability can emerge from the sensory experiences of a building (the sounds, lights, smells, and textures of a space), from our first impressions of the site (the ease to navigate and understand how to access areas), and from the degree of access beyond the borders of a building (such as public and personal transport links) [5]. Others equally report on the challenges of participation, wherein some marginalized groups are difficult to find, access, and convince to take part. They may feel disconnected from the subject, discouraged by lacklustre past experiences, distrusting towards outsiders, or expect compensation that the project did not expect/cannot provide [16]. These realities provide insight into the practical and methodological challenges of including the voices of marginalized groups. This research carries these insights forward into data collection to help explore and probe recent designs of public spaces, buildings, products, and services.

These examples serve as brief glimpses into the theoretical landscape. As demonstrated, there are several interpretations and practices that can conflict, downplay, or nullify one another. In this way, there are few clear pathways that could readily support practitioners in designing inclusively. This could help explain why current research reports on a lack of uptake [5].

2. Methodology

2.1. Approach to Inquiry and Research Questions

Designing inclusively has valuable social impact yet is beset by an entangled theoretical landscape with sometimes unrealistic expectations that can lead to issues on its uptake in practice. To help enable inclusion, this research turns instead to practitioner real-world experiences as a foundation for uptake. Despite their best efforts to understand an issue such as inclusion, project stakeholders may be unfamiliar with how built environments can disable [17]. This research chooses to learn about the lived experiences of practitioners who are attuned to designing inclusively either from their own disabling experiences, their roles within a project or company, or their self-motivated advocacy to improve the quality of life of those disabled by buildings, spaces, and products and services. Learning from their experience should provide a rich unpacking of how inclusion is mediated through the development process. This research is guided by the following questions:

1. How do practitioners advocate for and navigate inclusion in design projects;
2. Which aspects of inclusion are prevalent in project development and in the negotiations and trade-offs within the project;
3. What are the motivations and mindsets that drive these aspects;
4. What opportunities do these findings offer for improved inclusion across a project development process?

These questions are framed as exploratory research, open to discoveries through talking with respondents. This takes on a qualitative approach to inquiry to uncover, characterize, and understand social behaviour [18]. In this way, knowledge is created through the real interactions between people; “research in design is not concerned with the ‘true’, but with the ‘real’” [19] (p. 14). This leads to inquiries through the narratives of

practitioners on their experiences across development processes. Finding shared patterns between their experiences can become a useful contribution to both practice and theory. These methodological leanings draw value in describing and learning patterns shared across the beliefs, practices, languages, and behaviors of a culture-sharing group [20]. A culture-sharing group was initially described as people bound by their shared patterns as well as a physical space—such as individuals from the same school, office, or neighbourhood [21]. This suggests that culture is bound by physical proximity. While that can remain true, culture can be boundless in a digital age; through media and technology, people can connect with others and their shared interests or cultures remotely [22]. Our collective experiences of the lockdowns imposed across the world since March 2020 have evidenced that social groups, businesses, and families can all connect remotely from their respective homes. As digital quickly became one (if not the only) means of connecting with others, this experience proved how remote interactions can, “constitute everyday environments, experiences, activities and relationships” [23] (p. 11). Practitioners involved in this research are thus connected culturally by their advocacy and engagement with inclusion despite working on their own projects and taking part in this research remotely.

The contributions from this research constitute a set of patterns, or clusters of meaning [21]. They are derived from discussions with respondents about their thoughts and actions throughout design processes, and are supported with different artefacts, such as prototypes, storyboards, or other documentation. The research outcome should constitute the explorations within a group of individuals working towards improved inclusion in respective design projects and bring their experiences together to form a cultural portrait [24]. This depiction hopefully closely represents or is at least translatable to other practitioners with similar ethos or within similar situations.

2.2. Methods

Practitioners are asked about their own advocacies for improved inclusion within real-world project development experiences. Cues from these experiences can enable deeper insights into the different negotiations and trade-offs that may happen during the design process. Subsequent data from these discussions was clustered to discover shared patterns that can help identify opportunities for improved inclusion.

Between October 2020 and July 2021, six practitioners took part—identified either through existing networks, or by cold-calling organizations. Each was selected as they advocate in some way for improved inclusive practices in their respective design projects. These projects are all public-facing and intend to be accessible to any user. They offer a single space, building, or design that is made to suit a diverse range of people and abilities. This includes the design of hotels, public park structures, smartphone apps, transport infrastructure, and public event spaces. This research reports on semi-structured interviews—presented as informal discussions, or ‘talks’—that were conducted remotely, each lasting around one hour. The first two respondents were each ‘interviewed’ twice as there were some parts of their conversations that required further development. Subsequent respondents were only interviewed once as the topics and themes were better harnessed by then. Apart from general questions about their role or projects, theory-inspired cues included:

- How does your approach align with inclusion (and accessibility)?
- How does your ethos influence the development process?
- What motivates clients to be apprehensive or reluctant to push inclusion further?
- What are the motivations to dismiss your ideas?
- What else could you present that may motivate a client?
- Are there aspects (of inclusion) from past projects that influence your current practice?
- How do you recruit participants or find appropriate users with helpful experiences?
- Who has final say on whether you can move forward with an (inclusive) idea?
- Outdated documentation is often to blame, what do you think does and does not help your cause in current regulations and guidelines?
- Could you see this idea being scaled up into a more universal offer?

3. Results

The discussions with practitioners were recorded, transcribed for review, and organized. This section first presents an overview of the six practitioners and topics—supported by quotes—from their discussions. This is followed by the proposed aspects to designing inclusively that these conversations helped form, and how the results contribute to answering the guiding research questions.

3.1. Respondent 1 (P1)

P1 is an architect who works within an inclusion and accessibility consulting team for an international engineering, architecture, and interior design firm. They mainly reported on projects in hospitality (hotels) and large-scale office spaces. The team assists external clients and internal project managers with accessibility and inclusion needs.

Their advice is usually tiered to provide (i) basic minimum requirements, (ii) improved access and examples from previous case studies, and (iii) recommendations to benchmark and advance inclusion beyond industry standards. Lines between each tier are blurred in the documentation provided to encourage clients beyond minimum requirements. “For some (clients) it’s a really easy conversation to get started with pushing beyond and advocating for some of the inclusion that we think needs to happen and that should be happening. But for other clients, and honestly the majority of them, it’s a lot bigger push back from their side because it is seen as a lower priority” (P1). There are a mix of clients who react well to further recommendations, usually motivated by translatable benefits or optimizations. For example: a wheelchair user is compared to someone with suitcases in a hotel or a mother with a pram, better elevator access can improve flow in a building, and seating near a hotel entrance can keep throughways to reception clear whilst people are waiting in the lobby. According to P1, “It’s less on numbers, but trying to get them to have an understanding of efficiencies; the percentage of people and translating that to the lift discussion where ‘you’re not just resolving this for the disabled community but also for others’” (P1). Although a client may comply with regulations and standards, P1 tries to explain the value of personal experience and insight: “in terms of box-ticking everything was fine, but we wanted the company to think about the experience in the space for every user group. To substantiate that we relied on user experience and user feedback. Less on numbers, really the experiences that people had”. This aligns with their view that documentation is not always appropriate to user needs:

The problem of documentation is that it is from quite a long time ago (1960s and 1970s). They were about calculating the averages and accessibility standards for sizing that have become since quite out of date. So the minimum requirements aren’t even really minimum in that the best practice (tier 2 of their advice] should be the basic standard.

Clients who are more reluctant often argue that their existing portfolio meets specific criteria and there is no need to change. This comes even despite reasonings that identify a market niche or gaps in a client’s current offer which could explain underuse:

We tried to push an awareness and understanding that there is a shortage in accessible rooms in hotels across (redacted], and (. . .] they could stand out from the other competitors and there was a business case for it. (. . .] They could be quite a reference, or beacon, or stand out for it outside the status quo in that way.

Despite the added value argued for each issue, the client continually resisted on capacity, aesthetics, or potential underuse. Eventually, P1 summarised that: “I think the real reason behind their attitude came down to ‘but if we can get away with it, we’ll get away with it’ so they opted to not make any of the changes for accessibility rooms and move in that way”. It seems they could not overcome their client’s overall resistance to inclusion.

P1 also reports that some of the most impactful advancements in a project were led by disability experiences and when a client brought in their own participants for consultation.

In other cases, P1's team has successfully hired agencies to recruit potential participants—not just the loudest voices, but those unheard within even marginalized groups—but this was time consuming and required very precise criteria for the agency to follow. Finally, it was suggested that conversations about inclusion should happen as early as possible: “we try to frame these values within their objectives. And that's where the point of ‘the earlier the better’ because we can better embed this thinking into their frameworks and into the dialogues and discussions and have a longer talk across the project” (P1). In architecture, this begins at site selection to help determine and frame expectations. P1 explains that there should be an understanding of not only the use of a building, but its culture and management strategies.

3.2. Respondent 2 (P2)

P2 is an industrial designer who works in the development and manufacturing of outdoor recreational structures for municipal public parks or privately owned theme-parks. The company is well established internationally and driven by business-to-business sales (wherein users are not the purchasers). P2 is not specifically trained or seated in an inclusion and accessibility role within the company but is self-motivated to find solutions for marginalized users (mainly children who cannot fully engage with mainstream park designs).

Their most recent project considered new inclusive user personas whilst also creating technological and economic value to entice other stakeholders. They conferred with the sales team to determine market gaps and created designs that could suit different users, including—as they describe—those with specific cognitive and physical abilities. Through their discussions and further explorations, their user groups broadened:

We really focused on inclusive play. (. . .] Considering just the standard user, the child, and the family/caregivers who are always present because of the younger age so they're never playing alone—and of course, kids, or family members with special types of needs of different needs. We just tried to bring forward ideas and criteria that included every type of inclusiveness.

P2 attempted to establish criteria for different physical and cognitive abilities associated with conditions such as autism and overstimulation across different age groups. In doing so, they found resonances across age groups and conditions: “What's interesting is that we were trying to design for very young users, and often older users with cognitive disabilities fell into that younger age group even though they were much older biologically.”

Despite the successes, testing with users and allowing them a central role in project development was difficult. When asked about formal user involvement, P2 replied: “There was none. We had to fight to have user tests, we had to fight . . . yell almost to have one user test. It was very difficult to organize, difficult to get done. It was always a hassle, begging to get tests done, nothing was user led” (P2). Still, the company agreed to hire a child behavioral psychologist to consult on the project. P2 also took initiative outside work: “Although I loved to do observations, so I would take my lunch hour at a (redacted—park] and watch kids play, in a non-freaky way because I had my (redacted—company] T-shirt on, and take notes”.

There were also several production and manufacturing improvements within the project that were needed to advance the disability-driven ethos. To accommodate the ideas, new engineering principles were required. Their engineering colleagues were reluctant to make changes as there did not seem to be clear added value from an engineering perspective at first. These colleagues were gatekeepers to the next development stages. The design was presented again under the premise that it would reduce the amount of material needed, installation costs, and after-sale maintenance, and most importantly, would be negotiated and developed alongside their team members:

Anything brought forward was always met with resistance (. . .] so we had to go through a lot of back and forth and start to include them in part of the ideation process to make them think the improvements were as much theirs than ours.

The final designs were accepted and allowed the project to move forward with its disability-driven objectives—but only once paired with improvements that suited additional criteria set by other stakeholders and included their input and guidance.

In addition, clients were also accustomed to creating their own ‘pick-and-mix’ designs; a list of structural configurations allows clients to add their own components such as slides, climbing walls, or water features. In some cases, this can compromise the appropriateness of a design for certain targeted users. To avoid this issue in the new inclusive play designs, products (structures) were sold in a single configuration as the design team proposed an ‘ideal play experience’: “we used our research kind of like the argument (to offer a specific] type of layout or configurations because this is the ‘ideal’ play experience” and we sold them as pre-assembled modules” (P2). While its success is unclear—due to a COVID-19 halt in production and sales—their Inclusive Play product line had already received seven pre-orders, which is considered very high. P2 and the design team were happy to launch a new inclusive play structure despite several attitudinal and manufacturing challenges across the company and production team.

3.3. Respondent 3 (P3)

P3 is a practicing artist focused on children and play and currently holds the role of a curator / director of inclusion for an established public art gallery. They devise opportunities of engagement and connect those who are disabled with the gallery and its offers. There have been several successful events such as family art sessions, inclusive movie screenings, and sensory tours. Their approach is not directly centered on a business case and instead reinforces the values of community.

Their view is that:

Business models seem to be primarily about making money. And it seems that to make the most money, you have to act swiftly and in very uniform ways and I don’t think either of those things suit humans or human life or the development of people. (. . .] this isn’t going to be quick, or about mass production, or one-size-fits-all. But also, recognition that the payback is immense!

In P3’s view, families who attend and regularly return to the same activity are a success as they feel comfortable enough with the proposed framework, rather than use the activities to transition into the ‘mainstream’: “You’re not hoping to work with someone with access requirements to mend or change them. You aren’t seeking to say that the non-relaxed version is the standard or normal or one you’re aspiring to be comfortable in”. While it is not an objective, they are pleased to see people open themselves up and attend different events. This suggests that the gallery is building a strong community-driven case and successfully rescoping their target audiences to include those who were otherwise marginalized by the design of the events or spaces. P3 suggests a need to “have opportunities which recognize that sometimes to create an equality of access—or your best attempt—you’re actually shaping very different opportunities”. There should be a clear outline of the offer, for example: “At this point on this day with absolute certainty we can confirm that the hand dryers will be turned off in the bathrooms’ because for some families, that’s the only way they would use the toilets in a public space.” (P3).

Nevertheless, there is a balance between bespoke experiences and compartmentalizing users:

You never know who is going to build their confidence or seek relaxed event access as a safe starting point or first connection with us and then go into build their confidence and desire to attend another event, join a program, attend a studio, or whatever it is.

The goal is not to use these events as levers for participants to engage with mainstream activities nor to typecast them and create new access boundaries, but instead to allow people to enjoy within sensory conditions that are comfortable to them, in the same way as anyone else.

3.4. Respondent 4 (P4)

P4 works as the design director and lead UXUI (User Experience/User Interface) designer for a start-up company with a physical activity app. The founding CEO instilled an ethos of inclusion and accessibility from the outset of their business. This was first incited by their own color blindness and challenges with current app design.

They developed an algorithm for workouts and attempted to design a game-based fitness app, but recently shifted towards inclusive activities for a wide range of physical bodies after noticing a market gap: “When we were product driven, we worked towards gamification rather than lifestyle because we saw the gap at that point, but now people as less likely to pay as much for a game than the social aspects” (P4). The new ethos is summarized as ‘movement for everybody and every body’. Rather than develop workout capsules from conventional full body gym workouts such as lunges, they instead encourage people to stay active throughout the day with movement breaks. Aware of physical limitations, they suggest multiple options that can suit different capabilities such as taking the stairs, wall presses, or dancing. The latter was inspired by testimonials from a user who often relies on a wheelchair and is unable to practice standing movements: “they like the app but they can’t use it. (. . .] so we’re thinking of trying to find ways to provide exercise or allow those people to have the same experience and advantage of moving every hour” (P4).

As for app design, P4 makes a clear distinction between accessibility and inclusion. To them, accessibility is the crux of their work:

Accessibility needs a lot of work on my end, like how we place things on the screen. Whereas Inclusivity is about what’s in the copyright and the photos is how I understand it . . . currently. Working with the marketing team, this is how they use it. The message they build in the app, the story of our app is managed by marketing, I apply it to the app, and we merge our stuff together.

P4 adds that accessibility is about ensuring that fonts are readable, contrasts are sufficient, and text can be read coherently with audio captions native to each phone. They use websites that check for color contrasts and refer to Apple store guidelines on button sizes and font types. They also confer with users to continuously improve their app with weekly updates: “We’re still at a stage where we can afford to test directly on our users and get feedback on them. But, for larger changes, we contact users; We select people and schedule video calls and will send prototypes which they can open on the computer or phone”. P4 explains that the team is not focused on expanding until they are fully confident with app performance and suitability. The company instead “buys users for now” with gift cards for continued use of the app, and feedback through one-on-one testing with users. Their primary concern is to maintain a strong core of users (5000 per week) that can help them through feedback during tests and via comments in the app store. Broadening their scope and turning to a more inclusive outlook on users has equally created new business opportunities:

We got partnerships with insurance companies who want to promote healthy lifestyles. Since we validate their movements and activity habits, they can validate their people are exercising and offer reduced rates.

Inclusivity is viewed as an additional layer, it “is more of a social aspect. I find for myself accessibility is more important and inclusivity is a layer on top because it’s in the visuals” (P4). P4 explains that inclusivity is mainly to market the product using a more diverse range of users. Rather than pictograms of avatars, they include images of different users in anything from office wear to everyday streetwear practicing the movement break.

These serve as visual cues to the ethos, but P4 explains that they focus to ensure the app is clear, coherent, easy to navigate, and includes enough activities to suit every body type and physical condition.

3.5. Respondent 5 (P5)

P5 is a retired commissioner and design engineer for a major metropolitan underground transport network. They were not specifically trained to design inclusively, but were a strong advocate for improved safety, inclusion, and accessibility for all users. Today, they are seated within several disability advocacy groups and actively participate in the review of different national accessibility guidelines.

Across a few stories, they explain the benefits of including people who are disabled within the development stages of a project. For instance, a woman who normally uses ‘sticks’ (forearm crutches) to help her walk was invited to test a new reception hall in a building. By simulating a transaction, her inability to safely lean against the counter and set her sticks down presented a clear flaw in the design—it was mainly unusable. P5 exclaimed that “if an issue is put forward by someone disabled, it’s harder to argue with that person. If we are at the curb and I can’t get down, it’s an easy argument versus let’s say talking remotely like we are now” (P5). By this logic, specific users, or knowledgeable consultants—such as those with disabilities—should be involved early in the process. If you had a visually impaired person (for instance] in the commissioning, that problem wouldn’t have happened. You don’t absolutely need someone disabled, but at least people who know about the issues of the disabled. P5 explains through personal experience that it is more important to settle on a well-designed project before construction as it is less costly than retrofitting:

At that point it’s just words in a document or lines on a drawing. It doesn’t cost anything to change. It’s about getting the design right to start with. I’m a great believer that this should happen. Sadly, it doesn’t; We’ll very often find disabled people aren’t involved at the early stages. But if it suits the disabled person, chances are it’s going to suit everybody else.

According to them, when building large-scale and long-term public projects, suitable designs that are submitted late are more valuable than flawed designs completed within schedule. Successful solutions consider disabled users. This helps avoid undue reputational damage and has a positive ripple effect across users, their families, their friends, and beyond. They reflect back to their experience working for an underground train development to explain the value of this broader perspective, whilst linking inclusive objectives with the business case. They explained an exchange over a public forum where an architect asked to argue the value of a life—the costs associated with a death due to limited safety features.

But how much is a life worth? I’ve been through this argument. I know the accountancy method and the reality, but there are all these other issues to emphasize the reputational damage it does. (. . .] Something about 99% of drivers who are involved in an accident like that (death on tracks) never drive again. You’ve got the loss of their training and the cost of training someone new, and the cost of disruption of service which can all go in the business case. You can also argue costs that aren’t in the case: hospital costs of the injured person, emergency service cost, the trauma of staff, counseling costs. All of that outside that immediate business case fall somewhere in the organization, and it does reputational damage. Those involved will have a ripple effect on their immediate friends, co-workers or family concerned about the issue. Finally, someone says ‘I’ve been on (redacted—train line], they have screen doors’, but why don’t they all have them?’

Their testimonial reveals the importance of considering different users as well as their broader network whilst still closely aligning with a business case. The driving ethos of inclusion and participation for P5 can be summarized in 4L’s:

“Let me get there”: Transport and navigating spaces can be challenging and more labor intensive or stressful for those whose abilities do not align with common transport infrastructure. (Such as lacking step-free access, lifts, accessible taxis, ...).

“Let Me In”: Ensuring that spaces can be accessed readily. Usually enabled by visible signage, hearing loops, suitable dimensions or clearances, and step-free access within buildings.

“Let Me Participate”: Ensuring that people can interact with others and with the materials or tools in a meeting (such as prototypes and drawings) and use a space knowing they can escape/leave in case of emergency. There is also the attitudinal concern of “don’t put me in the corner and forget me because there’s nowhere else my wheelchair and I can fit”.

“Listen”: Allow people to speak and have their concerns considered within the framework of a project. Distil their issues into existing or new design criteria. Offer the opportunity to express themselves outside of conventional dialogue (i.e., by navigating a space and reporting their concerns, by simulating a situation, or by asking them about their everyday experiences).

3.6. Respondent 6 (P6)

P6 is foremost an artist who advocates for disability through their work but has recently developed an inclusive methodology through their experiences leading the refurbishment of several public arts and theater venues over the last few years. Their insight is seated within personal experience with disabling spaces.

P6 insists that inclusive and accessible design can only be achieved when the strategies are not exclusively public facing. This leads to a development process that includes staff members, maintenance, performers, and audience members with diverse bodies and minds. They also have a network of ‘critical friends’ who help stress test venues during development phases and provide feedback about the space according to their own access requirements. In probing the access needs and concerns of all those who interact with and within the space, more precise problems and richer solutions can emerge:

At no point was it just about doing something in a public facing way, but to look at it from all those areas (audience, performers, and staff]. Relatively quickly people started talking about their own access requirements and having those conversations, people start thinking about it and applying it to their lives and to themselves. It was interesting that it brought out talks that hadn’t felt as easy to have before.

This is a means for P6 to help break down normative practices and thinking. They explain that in designing for often quantified guidelines, practical issues are neglected. For instance, “it is very easy to install a radiator or place a rubbish bin in a turning space” making the proposed ‘accessible’ thoroughway unusable. P6 also proposes thought-provoking questions centered on the people, not their disabilities:

Question 1: “Could two people come into the kitchen as it’s designed, make a tea, and sit at the table to chat for a few minutes?”.

Question 2: “Now, could those two be using wheelchairs?” (P6).

These practical questions go beyond accessibility requirements to highlight the everyday needs of people who are otherwise seen as ‘navigators’: making it efficiently from ‘point A to point B’. Accessibility is therefore seen as a continued effort, not an end goal assessed at project handover.

Through working with clients and learning more from designing new spaces, P6 discovered the origins of their client’s reluctance. Despite their interest in becoming more inclusive, P6 explains that: “I think there’s a lot of anxiety around getting it wrong with

disability. We hear lots of places say they don't want to get it wrong or think that's 'too specialized' and somebody else is probably better at doing it than us. I think a big part is taking away that fear and showing that this is already part of your work" (P6). To help clients understand and practice inclusion and accessibility, P6 proposes three commitments that are explained as "simple to accept yet radical in the outcomes and benefits they create for diverse user groups":

1. **"No new barriers:** you may inherit barriers that take time and planning to dismantle and undo, but you should commit to not creating any new ones through thinking about a variety of bodies, minds, and perspectives. The thing I like about that is that it sounds quite simple, but it's also quite radical because it means—especially for a creative organization—if you're going to honor that, you have to think about everything in that layered way from the outset".
2. **"Equality of experience:** for a long time, it was 'as long as it was technically accessible to disabled people'. (This commitment moves] beyond just being technically accessible, to thinking in terms of the experience. It's about using creative tools. The quality of experience is not about having things in the exact same way but having thought and given creative attention to the different ways people might access different elements".
3. **"Reduce Fuss:** So much extra labor falls on disabled people and there's often a lot of additional fuss around access requirements. That may mean that you arrive somewhere, and people may not know about hearing loops, or where to find the key for the accessible toilet. These may feel really small in of themselves, but cumulatively send the message that 'you're not welcome, not thought about, not valued'. This third commitment is just about embedding practice so that it is routine, and we take labor away from people".

3.7. Proposed Aspects

Following the discussions (semi-structured interviews) with respondents, data were clustered thematically to help answer the driving research questions on practicing inclusion, prevalent aspects within negotiations and trade-offs in the project team, their motivations and mindsets, and opportunities for improved inclusion [21]. In total, 24 clusters were formed. This research views design as a social process, drawing attention to both the procedures of project development and the influences of working with others [25]. The data are organized accordingly, in three parts: general aspects about project development, aspects about working with others as a team, and designing inclusively. The table below (Table 1) presents the aspects within the three proposed parts, followed by an explanation of each.

Table 1. Proposed Aspects to Designing Inclusively from Practitioner Perspectives.

Project Development	Working as a Team	Designing Inclusively
Available Money and Time	Stakeholder Dynamics	Actioning Change
Existing Practices and Processes	Gatekeepers	Logic of Involvement: (Reputational Damage, Benchmarking, Universalism vs. Bespoke, Transferability)
Optimizing	Institutionalizations	Presumptions and Disability Prejudice
Regulations and Guidelines	Middle Ground	Maintenance
Retrofitting		Earliest Involvement
Scaling Up	Cultural Contexts	Recruitment
Global and Local Context		Participation
		Compensation

3.7.1. Project Development

Despite having an inclusive intent, design projects often follow a specific framework that resonates across many development processes. Through the discussions with practitioners, seven aspects about general project development emerged. They were seen to play a role in the outcomes of projects but do not seem inherent to advocating for inclusion specifically. These include:

Available Money and Time

Money and time significantly influence and control what is possible in a project. Although, they are not mutually exclusive since projects respectively require enough time and money to develop solutions. Usually, timelines control how money can be spent, and money can influence the effective use of time, as well as the available resources.

Existing Practices and Processes

Investments made into current procedures, pipelines, manufacturing methods, or contracts influence what practices and processes a company is more willing to take on.

Optimizing

Often associated with streamlining or improving production, assembly, or user experiences. Usually linked to profit or other quantifiable factors (production time, materials).

Regulations and Guidelines

Companies must adhere to regulations or risk legal consequences. While regulations have legal accountability, guidelines are not legally binding (can be seen as a suggestion). Regulations and guidelines are seen as valuable indicators or references for project requirements, but also are criticized as (out)dated—failing to represent current needs. Some elements of the Equality Act (such as race or sexual orientation) are sometimes difficult to distil into design requirements.

Retrofitting

Revising a finalized or existing design and resolving issues bound by the surrounding infrastructure. Often more expensive than resolving problems at the outset of a new project, or at least before manufacturing and construction. Difficulties emerge around accessing the site and making changes given that the building, space, product, or service is already launched/in use (especially public infrastructure).

Scaling Up

Moving into a larger market or growing one's own market and coping with the demands from production, maintenance, user queries, and diversifying needs (sustainability).

Global and Local Context

Influence on the design from global and local situations. This includes weather conditions, pandemics and social distancing, or the values advanced by social equity movements.

3.7.2. Working as a Team

When designing is understood as a social process, the interactions between different team members and other stakeholders influence the outcomes of a project. Each person holds different framings, understandings, interpretations, and values that motivate their actions as they work towards the design goal. The interactions between team members and their development of shared understandings, or effectively working together on a project, are already well reported (see [26,27]). In complement, the interviews revealed aspects of working as a team that influence uptake or the ability to design inclusively.

Stakeholder Dynamics

Relationships between stakeholders are influenced by (i) respective roles and responsibilities (and attitudes therein), (ii) whoever is central to the project, (iii) gatekeepers (see below), (iv) the contrasts between client, designer, and user priorities, and (v) trust (see [28]).

Gatekeepers

Looking into the effects of 'who is in charge or has final say', and 'who are those along a design process needed to advance the project'.

Institutionalizations

Deeply embedded ways of thinking with often systematic effect. Institutionalized values, design methods, processes, structures.

Middle ground

Compromising, or finding opportunity between different views. Often influenced by the weighting of specific values over others. Rarely equidistant (true 'middle' point) between two different views. Despite efforts, changes are often incremental; subtly moving away from marginalizing designs to more inclusive ones.

Cultural Contexts

Conditions or frames formed by cultural practices/backgrounds. Different team members may hold different company, institutional, or interpersonal values based on their experiences, and interact with others (or with the project) differently.

3.7.3. Designing Inclusively

Through discussions with practitioners, there were aspects beyond the scope of general project development and team dynamics that seemed specific to advocating for and instilling inclusion. The following aspects outline some of the general motivations, principles, drivers, and obstacles to designing inclusively. Through data clustering, it seemed relevant to highlight overall aspects, then those specific to the active involvement of (marginalized) users within project development processes, respectively. The following aspects address designing inclusively in general:

Actioning Change

The effort and motivation to initiate and mobilize changes. Inclusion rarely happens without instigation or the efforts of someone in a team to introduce, advocate, and drive it. Sometimes organizations will hire or create the role of a 'champion'. Championing involves one or many experts, team members, or consultants with promising experiences in inclusion who present gatekeepers with a strong 'logic of involvement' (see below). Actioning change is often aided by a strong overarching ethos: a guiding principle across a company, group, or stakeholders.

Logic of Involvement

Providing a proof of logic to designing inclusively by arguing through one (or many) of the aspects below:

- **Reputational Damage**
 - A ripple effect from marginalizing designs to the detriment of a company involved in its creation, use, or sale. By neglecting to design safety or access requirements, or a sense of belonging for diverse types of users, a company may build a negative reputation. By excluding specific users, a company may lose the support of the marginalized groups, as well as those within their target audience who align with values of inclusion and are open or attuned to diversity.
- **Benchmarking**
 - To hold the best practices/standards in a given industry. To stand out from other designs/offers by leading in inclusion and accessibility.
- **Universalism or Bespoke**
 - Tensions between the beliefs that solutions are bespoke and framed, or solutions should be suitable for all. A design tailored or framed to fewer mainstream needs or requirements is sometimes difficult to monetize or scale up, although a product that attempts to accommodate any human condition and preference is not possible.
- **Transferability**
 - The conditions of one user can translate to satisfy the needs of others and broaden the scope of targeted users. Some experiences or needs—such as safety—can transcend human differences. Some practitioners propose that de-

signing from the worst-case scenario can often suit more people than designing for the most capable, or 'average', user.

- Thinking about how processes developed from an inclusive project can apply and benefit other projects. Looking at how inclusive principles can easily transfer into other processes.

Presumptions and Disability prejudice

Automatic frames of reference that are problematic when trying to involve or design for marginalized groups. Team members or stakeholders sometimes hold perceptions of people with (dis)abilities that undermine their capabilities, omit them from design criteria, or neglect and marginalize them. Presumptions hold automatic, and often undisclosed, frames of reference that hinder the design or involvement of marginalized groups.

Maintenance

Accessibility and inclusion are often seen as an achieved goal or checklist that concludes with the end of a project or at handover. Rather, they should be seen as the same as maintenance or cleaning; a continued process that is upkeep and assessed continually throughout the life of a building, space, product, or service.

Earliest Involvement

Throughout the research, the idea of active involvement and participation from (marginalized) users has been highlighted as central to designing more inclusively. Earlier discussions with users or their involvement allows for more time to frame inclusive values with clients and embed user insights into objectives. This is more challenging when deadlines are very short or projects are already behind schedule/late.

Recruitment

- If uncertain how to find users, seek recommendations from existing advocacy groups, local councils, or the client/stakeholders themselves, or draft clear criteria for recruitment agencies.
- Broaden the scope of users to include input from those who interact with the design such as staff members, distributors, maintenance teams, or passers-by.
- Different information and possible biases can emerge from including 'critical friends' versus 'strangers'.
- Consider who are identified as 'suitable people'; while the unheard voices are more difficult to find than the 'loudest', learning from these different attitudes can provide more and deeper insights.
- Recruiting marginalized users is not always straightforward. They may be reluctant to share their experiences or discuss what has positioned them as 'oppressed'. Some groups are more reluctant than others, especially when the designer is seen as part of the mainstream/oppressive group.

Participation

- Consider different levels of participation: users as test subjects, as team members, as designers, or as project leaders:
 - As test subjects, users are valuable in testing and prototyping a design since they can show you directly how a design complies with their access requirements.
 - As team members, users can contribute along different key stages of the design process and provide input throughout.
 - As project leaders, users can guide a project and drive an ethos of inclusion, perceiving every aspect of the project through their own access requirements.
- Consider the challenges of communicating and participating with others; a user may be an expert of their lived experience, but not necessarily an expert in communicating and working within a design team.
- Consider the expertise and responsibility of team members to enable, facilitate, or command a decision at the behest of users.
- Users lose their motivation to participate when their contributions go unheard, or do not seem to play a part in decisions made during development processes.

- Users are sometimes at the intersection of different groups that fall both within and outside of the mainstream, or beyond the initial inclusive scope of a project.
- The feeling of being safe is highly valued and desired by users. This can include both the design of a physical space or object, and their personal safety during interactions with others (within their everyday, or within their participation in the project).

Compensation

Concerns emerge when thinking about how to compensate user participation. Consider how they are compensated as equal members of a team (or not), compensation in conjunction with universal or disability credits, and compensation according to research ethics (especially in academic projects).

3.8. Answering the Research Questions

This research set out to explore practitioner perspectives and experiences of designing inclusively. This led to discussions with designers, architects, planners, and advocates who drive inclusion-led initiatives in project development processes. Four questions were proposed at the outset of this research, explored below:

3.8.1. Question 1: How do Practitioners Advocate for and Navigate Inclusion in Design Projects?

Practitioners presented several different ways and positions through which they advocate for inclusion in design. In some cases, they contribute as consultants who perform desk reviews and propose recommendations according to different tiers of advice. They may also support clients through the different design stages and offer recommendations when solicited. In other cases, they are active team members who advocate through their own volition by embedding inclusive practices when they can according to their own ethos and knowledge. Otherwise, respondents were also leaders in a project. They proposed and managed guiding pathways to more inclusive outcomes. Despite the varying roles and responsibilities, many aspects of the uptake of inclusion resonated across discussions.

First, respondents needed to show a proof of logic in their proposals to demonstrate added value. Presenting a new type of user—especially from minority or marginal groups—often required reasoning that aligned with project or stakeholder priorities. Respondents expressed that presenting added value to the business case was helpful. They reported on market niches (validated by sales representatives or marketing teams), and the value of providing optimized production methods or transferrable processes to other projects. They could also demonstrate translatable benefits from one type of user to another and, inversely, outline possible reputational damage by casting out a specific group. The experiences and practices of the research respondents align with past findings:

Although inclusive design was promoted as a business case promising a larger market, the interviews found, however, that designers themselves were not particularly interested in the numbers per se. Rather, they considered numbers would be a strong argument to be presented to their clients. They can use estimates of exclusion numbers to persuade their clients to adopt a more inclusive solution. Ref. [14] (p. 116)

Second, practitioners advocate for inclusion from the outset of project inception. When involved early on, they can help clients navigate aspects of inclusion that may feel uncommon or less intuitive. Early involvement can help prepare clients with practical questions as they interact with contractors or new stakeholders. Objectives and a clear benchmark for inclusion can be determined at the outset that would align the project throughout its development process. Respondents also express that it allows more time to learn about the culture and context of a project, relevant regulations, and the governing ways of thinking at play in the team. These help assess how to best involve inclusion-led perspectives at different stages.

3.8.2. Question 2: Which Aspects of Inclusion Are Prevalent in Project Development and in the Negotiations and Trade-Offs within the Project?

First, several aspects about designing with others were identified. This includes institutionalized (naturalized/governing) ways of thinking, stakeholder dynamics, presumptions about users and objectives, coordinating team members according to a proof of logic, and aligning with gatekeeper values. These conditions converge with research on collaboration [26] which outlined the importance of maintaining a shared understanding of the goals and processes across team members to design more effectively. This echoes Bucciarelli [25] (p. 162) on the interactions between object worlds—or “worlds of technical specializations, with their own dialects, systems of symbols, metaphors and models, instruments and craft sensitivities”. In a recent case study, it was made clear that “for each person, these object worlds, or frames are furnished with methods, techniques, values, and perceptions that connect the ‘real’ world to past experiences and knowledge” [27] (p. 8). This also advances claims that peoples’ forms of reasoning are prevalent in effective team-based projects wherein “the way actors logically think was seen to noticeably impact team members’ ability to negotiate designs and understand one another” [26] (p. 65). Similarly, findings from the present research draw attention to the effects and reasons behind decisions on who is involved, their outlooks on the project, and their roles and responsibilities across the development process.

Second, there was considerable concern about the (e)quality of different users’ experiences. This includes forging a middle ground between bespoke and universal solutions, and the value of retrofitting designs to accommodate a wider scope of users. Practitioners improve the uptake of inclusion by explaining how designs are translatable to suit more users, or how new inclusive principles from one project can serve future endeavors. Thus, designing inclusively is enabled by reflective practice: the way a practitioner thinks evolves through their continued experiences [29].

Third, involving users (and others)—especially those marginalized by a design—was central to designing inclusively, although their participation in a project can vary greatly. They are sometimes represented quantitatively, in the measured spatial requirements within regulations. This often refers to doorway dimensions, table heights, step-free access, or visual or audio support (such as braille, or hearing loops). In the United Kingdom, architects and planners often refer to Building Regulations, especially documents M (Access to and Use of Buildings) and K (Protection from Falling, Impact, and Collision) [30,31].

Next, user perspectives are sometimes included indirectly. Representatives or expert consultants are added into a team for support throughout one or more stages in a project. This is more common when projects do not allocate time for recruitment, or when participation is logistically or ethically complex. Otherwise, users may take on an active role in a project. They can be consultants who test an idea throughout different development stages, equal team members involved across the overall project, or leaders who guide others across the process. Either way, it seems important to consider their role and to frame their involvement accordingly: how are they recruited, how are they compensated, and to what extent do they contribute? While some may be experts in their own lived experiences, some users may not know how to participate and contribute within a team-based design project, and other team members may not know how to work together accordingly. In this case, it is important to consider who may either facilitate knowledge transfer, or drive inclusion-led objectives within team negotiations.

3.8.3. Question 3: What Are the Motivations or Mindsets That Drive These Aspects?

First, many motivations are driven by a business case; a market niche, translatable benefits from one type of user to another, or profitable opportunities within a social climate entice stakeholders or team members with economic growth. The financial success of a design easily equates to the longevity of a business and opportunities to continue to design inclusively within future projects. Setting a benchmark within a market segment as an inclusive building, space, product, or service can draw positive and profitable attention

from potential users, clients, or investors. Inversely, business cases can be motivated by avoiding negative perceptions and subsequent reputational damage from designs that disable.

Second, some mindsets hinder uptake. Team members or other stakeholders may have conflicting interpretations of a given group or hold prejudice and presumptions that continue to marginalize. This may include a view that accommodating minority groups does not have a significant impact on the success of a design. Problematically, this can play a part in the governing ways of thinking woven into the fabric of long-standing design practices and processes [32]. To overcome this outlook, some practitioners use first-hand examples of their own unmet access needs. They also invite not only team members of the project but the potential actors within a building to share their own access needs and experiences of marginalization. This encroaches on the culture of a building wherein a project isn't only public facing but includes the perspectives of everyone who engages with the design: maintenance teams, permanent staff members, visitors, part-time contractors, current users, and possible users.

Third, some motivations are less concerned with the business case and focus on meeting bespoke criteria that place inclusion and access at the heart of a design. Respondents agreed that inclusion in design has less to do with universalizing or creating repeatable processes. Rather, designing bespoke and well-framed opportunities for specific access needs allows people to express themselves fully and experience something without a constellation of concerns. Designing an experience where someone does not worry about certain commonplace barriers can lead to greater engagement and deeper connections between that person and the building, space, product, or service. It can also provide a sense of freedom and validation by framing clear boundaries around an experience. Sensory requirements are met, and a disabling barrier is removed. A greater sense of trust and rapport with the design often follows [5,7].

3.8.4. Question 4: What Opportunities do These Findings Offer for Improved Inclusion across a Project Development Process?

Designing for a more diverse group of people and their varying access needs can create a more successful solution. This diverse group extends beyond mainstream (majority) users and includes those disabled by designs. It also goes beyond users and clients to inquire upon those who interact with these designs in their everyday: staff members, maintenance crews, or passers-by, among others. Their insights collectively open to negotiations imbued with personal experiences ranging from privilege to marginalization.

Second, negotiations about a design and the outcomes that ensue should be framed as bespoke. Designing inclusively implies a well informed and framed experience to allow people to fully engage within the boundaries of their own access needs. Practitioners report that taking the time to design well-tailored experiences creates a deeper connection between people and the design. Through these relationships, new insights can emerge that progress the design further. Designs are framed as bespoke experiences rather than pathways for people to 'advance' from unique to universal. Nevertheless, principles from a bespoke design can be scaled up or transferred to new projects.

Third, inclusion was sometimes presented as a continuous progression rather than a goal met (or not) at the end of a development process. The concepts of inclusion are inspired by ever-changing social contexts. This extends to designing inclusively, where actions are continually assessed and improved upon. Inclusion is viewed in this way as part of the ongoing maintenance of a building, space, product, or service. This suggests that roles are created to report and react to evolving access needs. An opportunity for someone with experiences of marginalization who is attuned to these concerns can emerge. Their engagement can continue to rescope who is involved in the uptake of inclusion.

Fourth, appealing to a business case extends beyond direct financial gain from increased profits or reduced costs. Instead, respondents showcased how improving disabling experiences can support a business case. This includes designs that become industry

benchmarks, that understand possible reputational damage, or that create value through more bespoke experiences rather than a single (falsely) universal one. Importantly, the social networks and support across people disabled by a design or not was compelling. Respondents explained the ripple effect of marginalization within an interconnected world.

Finally, this leads to an overall recommendation about opportunities for the uptake of inclusion. It has been made clear that design projects include multiple team members with varying perspectives, goals, and criteria. Designing inclusively (and successfully) embraces a complex network of requirements. As designers, architects, and other planners work to improve the uptake of inclusion, they know to meet their objectives alongside other improvements that entice relevant project gatekeepers. Specifically, this can mean improved inclusivity combined with optimized production, an appeal to trending marketable values, a diversified company portfolio, or simply increased profits or reduced costs.

4. Discussion

After unpacking the data according to the proposed research questions, a few final thoughts, limitations of the research, and further research developments are proposed. Through discussions with respondents, it was easier to identify practical aspects of designing inclusively and overcome some conflicts brought on by an entangled theoretical landscape. Practitioner experiences framed aspects mentioned in theory within 'real' design situations. Their insights provided an up-to-date account of inclusive architectural and design practices. Still, their perspectives were not always aligned. This is expected as each person holds different framings and object worlds during a project. For instance, it was expressed that a single mainstream design suitable to every person was not realistic. Indeed, designing inclusively has been described as "an attitude to design that seeks to include as many people as possible" [5] (p. 509), rather than an achievable goal. Examples from practice showcased how each person experiences a space differently and has different access requirements or preferences. This dissolves the idea of a universal design. Yet, universalizing an experience remains a realistic priority in design projects due to its appeal as a business case. Nevertheless, practitioners showed how bespoke experiences improved business cases and broadened the scope of targeted users—not only enticing a specific group, but attracting new users and forming a positive ripple effect. Bespoke designs equally served as starting points for the development and transfer of concepts into an organizations' mainstream offers. Attributes or characteristics of a bespoke design can be scaled up and benefit more universal solutions.

In another instance, it is expressed that disability is an interactional issue wherein people are not disabled, but rather the designs are disabling [1,5]. Still, the medical model of a disabled person—as standalone biomechanical, spatial, or sensory requirements—continues to play a large role in the rhetoric of inclusion. This is partially recognized in a few discussions where respondents explain the challenges associated with advocating for characteristics within the Equality Act that do not have quantifiable values. They are led into tricky problems around the safety, wellbeing and prejudice within groups founded on (often marginalized) gender(s), race(s) or sexual orientation(s).

These examples continue to evidence that conceptual conflicts exist within both theory and practice. However, unlike theoretical research, practitioners must make decisions that directly impact real world experiences and the lives of people who may have to interact with the designs in their everyday.

Although a series of proposed aspects was brought forward, there are limitations to this research. First, despite identifying 30 organizations, 6 demonstrated a willingness to take part. Those who did not participate reported on a lack of availability or an uneasiness to discuss topics that could jeopardize client relationships (despite explaining details about anonymity). Furthermore, the six respondents are from either Canadian or British organizations. While they may not reflect the views of other countries, they did report on experiences working for and with international stakeholders (Western Europe, West and Southwest Asia, and North and Central America). Further iterative developments into this

exploratory research could provide a wider scope of designing inclusively, although the landscape of inclusion and design practice is ever changing, as are the frames and object worlds each individual holds [25]. Second, the selection criteria and guiding questions are designed to learn from practitioners with an intent to design inclusively. This implies that practitioners who do not see value or do not practice inclusion were excluded from the criteria. Yet, respondents did explain their experiences working with such team members and provided insight as to how they overcame the challenge. After all, this research is interested in finding opportunities rather than reporting on barriers. Finally, the selection criteria also set out to identify practitioners who design public access spaces, buildings, spaces, products, and services. This excluded one-of-a-kind solutions and private residences. This research, however, saw value in the design of bespoke solutions, distilled into inclusive qualities that are then scaled up for mainstream designs. This suggests that further research could include smaller scale projects such as the motorized ‘coat lifter’ (a product designed to help someone put on, store, and remove their own coat) [33], or private homes designed for/by architects with specific access requirements, such as the work of Architect Marta Bordas Eddy [34].

Some opportunities for the uptake of inclusion were proposed whilst exploring question four (motivations and mindsets). Hopefully, these opportunities can encourage and prepare practitioners to design with inclusion as part of the development process more readily. Inclusion can be viewed as a continually evolving concept addressed incrementally from one project to the next as expertise develops and advancements continue. In this respect, a next step in the research is proposed. To improve uptake in practice, this research project will prioritize impactful aspects of inclusion and identify where they manifest along development processes. Specifically, further discussions, co-creations, validations, and modeling of the aspects with research respondents are required. Further insights will help determine which aspects of inclusion strike a balance between an ease to implement and a positive impact to those disabled by existing designs. These opportunities will be placed within existing design processes to help practitioners resolve issues or concerns around inclusion at impactful moments in the project. For instance, this may include recommendations and cautionary tales about recruitment and the role of users in the early RIBA (Royal Academy of British Architects) [35] stages of an architectural project. Additional discussions with respondents should also strengthen the findings and insights framed within this exploration.

This special edition journal highlighted the ongoing concerns about the uptake of user participation in the process of designing public buildings, spaces, products, and services. The special issue draws particular attention to the continued complexities within existing processes, the attitudinal perspectives of practitioners and stakeholders, and outright challenges of involving users. As this research posits, user participation and inclusive design are intrinsically linked. To design inclusively requires user involvement. This paper points out the complex entanglements within theory—focusing on user involvement through the lens of inclusion. Rather than untangle or redefine theories, this research turned directly to practitioners to find out how inclusion manifests in practice. Findings provide a flavor of real-world practice and distil them into aspects that continue to help us evolve our understandings of the uptake of user inclusion, involvement, and/or participation in design decision making. The aspects of designing inclusively are not devised to solve our issues or untangle complexities. Instead, they should help practitioners make sense of their journey towards improved inclusion. This paper begins to outline very clear aspects to guide practitioners. This includes concerns about levels of user involvement, facilitator expertise, compensation, and recruitment. Hopefully practitioners make sense of these aspects and use them to incrementally develop their own proof of logic and improve the uptake of designing inclusively.

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