Socially Innovating Architectural Design Practice by Mobilising Disability Experience. An Exploratory Study

Ann Heylighen,[1] Jeandonné Schijlen,[1] Valerie Van der Linden, [1] Dorien Meulenijzer,[1] and Peter-Willem Vermeersch[1,2]

[1]*Research[x]Design, Department of Architecture, KU Leuven (University of Leuven), Leuven, Belgium*

[2]*(Full) Scale Architecten, Leuven, Belgium*

Corresponding author: Ann Heylighen, Kasteelpark Arenberg 1/2431, BE-3001 Leuven (Heverlee), Belgium, ann.heylighen@kuleuven.be

Well-considered building codes turn out to be insufficient to ensure inclusive building design, suggesting a need for change in how building accessibility is addressed in architectural design practice. This article presents Rent-a-Spatialist, an attempt at socially innovating architectural design practice based on the skills of disabled people. Due to their particular interaction with the built environment, disabled people are able to appreciate spatial qualities architects may not be attuned to, which would contribute to a more inclusive built environment. Because this ability is rarely used in architectural design practice, and disabled people have a vulnerable position on the job market, we explored the potential of mobilising disability experience as a consultancy service to inform architectural design practice, which connects improving material conditions with improving social relations. To this end we probed the interest in such a service by interviewing 34 built environment professionals involved in building design and construction or exploitation in Belgium or the Netherlands. In addition, seven disabled people and 12 HR experts specialised in workforce diversity were interviewed about the potential of the envisaged service. Findings suggest that the service could strengthen disabled people's position on the job market by enabling them to gain work experience. However, efforts are needed to convince built environment professionals of its added value, and to clarify issues related to disabled people's employee status.

Keywords: architectural design; consultancy; disability; inclusive design; social innovation

Introduction

In architectural design practice, building accessibility tends to be considered as a matter of fact (Latour, 2005), something people are detached from, taken care of by professionals, instead of something people are exposed or attached to (Simons & Masschelein, 2009). In Flanders (Belgian region), building legislation strengthens this tendency by translating accessibility into minimum door widths and maximum heights of thresholds (Peeters, 2009), objectively measurable by accessibility professionals.

In reality, people are thoroughly affected by building accessibility. Contemporary understandings of disability stress the role of environmental determinants in performing day-to-day activities (Fougeyrollas, 1995). Unlike medical models of disability, the social model therefore distinguishes between disability and impairment: it considers disability as socially constructed on top of impairment (Corker and Shakespeare, 2002) and explains its changing character by society's organisation (Butler and Bowlby, 1997), including the spaces and technologies shaping it. Disability is thus understood not as an attribute — either of a person or environment — but as an *effect* of the interaction between both: "disabled is not something one *is*, but something one *becomes*" (Moser, 2005, p. 669, our emphasis).

Translating accessibility into facts limits the scope in which the experience of becoming disabled — henceforth disability experience — can be considered a valuable resource for design. Studies show that even well-considered legislative measurements are insufficient to ensure inclusive design in our society (Franz et al., 2010, Iantkow, 2015, Rieger & Strickfaden, 2016), leaving numerous buildings poorly accessible. A survey in Leuven unmasked 70% of the 1500 commercial buildings as inaccessible for

wheelchair users (HiddenCity, 2015), even when applying less stringent accessibility criteria than legally required. This may be explained by the fact that, although accessibility standards derive from some kind of human consideration, a fixing occurs when they are completed: as they simplify human experience, they require interpretation (Rieger & Strickfaden, 2016). As a result, they offer architects little insight into why a particular building feature is problematic, leading to erroneous application (Franz et al., 2010). Moreover, accessibility legislation is felt by designers as restricting their creativity and removing the challenge to come up with intelligent design solutions (Gray, Gould, & Bickenbach, 2003). Flemish architects list it among the 10 most irritating aspects of their profession (NAV, 2012).

These observations suggest a need to change how building accessibility is addressed in architectural design practice. If architects are to understand how people are affected by the built environment, qualitative dimensions are just as important as quantitative; the challenge is thus to provide information that encourages designers to go beyond minimum standards (Ormerod & Newton, 2005).

In this article, we present Rent-a-Spatialist, an initiative that seeks to address this challenge by socially innovating architectural design practice. In social innovation, improving material conditions connects with improving social relations. Key to Rent-a-Spatialist is that building (re)design is informed by mobilising disabled people's embodied experience as a consultancy service. Rent-a-Spatialist thus acknowledges that those affected by building accessibility bring valuable skills to the table and rewards them accordingly.

The article explores to what extent (a) interest in this service exists among built environment professionals, and (b) it would improve disabled people's situtation.[1] As such, it contributes to understanding how lead users (von Hippel, 1986) can be involved

in architectural design practice from multiple perspectives. After presenting Rent-a-Spatialist's background and rationale, we describe the methods used to probe different stakeholders' ideas about the service. Subsequently, we present the findings, and discuss their implications, the study's limitations, and directions for future research.

Background and rationale

Social Innovation

The term *social innovation* is used to denote finding acceptable solutions to problems of exclusion, deprivation, and lack of well-being:

> [social innovation] means fostering inclusion and wellbeing through improving social relations and empowerment processes: imagining and pursuing a world, a nation, a region, a locality, a community that would grant universal rights and be more socially inclusive. Socially innovative change means the improvement of social relations – micro relations between individuals and people, but also macro relations between classes and other social groups. It also means a focus on the different skills by which collective actors and groups play their role in society (Moulaert, MacCallum, and Hillier, 2013, pp.7-8).

Characteristic of social innovation in this sense is that improving social relations intimately and necessarily connects with improving material conditions. This connection also characterises the evolution of social design: having started out as designers designing for the public good (Smithsonian Institute, 2013), more recent forms such as co-design (Sanders & Stappers, 2008, Steen, Manschot, & de Koning, 2011) and co-creation (Sanders, 2009) address societal challenges in collaboration with those affected by them, acknowledging the skills they can bring to the table.

Other definitions stress social innovation's role in creating "workable 'utopias'", taking place through windows of opportunity emerging from challenges to institutional

practices: “Innovation often emerges from conflict: opportunity spaces at micro scales may make creative strategies possible at macro scales” (Moulaert et al., 2013, p.8). Stressing this role highlights the relationship between initiatives in small communities, and its logic of continuation in constructing institutions that could enable socially creative strategies at macro/micro scales (Moulaert et al., 2013).

Rent-a-Spatialist acknowledges the skills by which disabled people can play a role in architectural design practice. Mobilising their spatial experience to inform design is expected to improve material conditions – by contributing to a more inclusive built environment – and social relations – by strengthening disabled people’s position on the job market. In line with definitions of inclusive design[2] (BS 7000-6, 2005, Design Council, 2009), an inclusive built environment can be described as respecting the diversity in human abilities within the widest range of situations. To some extent, Rent-a-Spatialist can thus be considered utopian, as it is impossible to really design for everyone. Rather than as a critique on inclusive design, its advocates advance this impossibility as a determinative characteristic (Duncan, 2007, p. 13).

Improving material conditions: Towards a more inclusive built environment

The idea to explore social innovation in the context of architectural design practice grew from an initiative of individuals in a small community. On the KU Leuven’s premises, disabled students and staff were mobilised to inform the redesign of university buildings (Heylighen, 2012, Vermeersch & Heylighen, 2015). This mobilisation was motivated by the observation that, through their bodily interaction with the designed environment, disabled people can appreciate qualities designers may not be attuned to (Cassim & Dong, 2003, Pullin, 2009). This ability is highlighted by the term ‘user/expert’, denoting

“anyone who has developed natural experience in dealing with the challenges of our built environment” (Ostroff, 1997):

User/expertise can be found in mobility or sensory impaired people, but also in people with particular mental or cognitive conditions like dementia (Zeisel, 2001; Van Steenwinkel, Van Audenhove, & Heylighen, 2014) or autism (Baumers & Heylighen, 2010). Participants involved in the redesign of university buildings include students and staff with vision impairment (blindness, low vision), mobility impairment (wheelchair use, having difficulty walking), or autism, and students of the University for the Elderly.

Their involvement was highly valued by architects in charge of the buildings’ redesign. Compared to accessibility audits by professional accessibility advisors, the architects especially appreciated the broad and nuanced approach to accessibility resulting from involving people with diverse impairments. The insights gained inspired and informed major alterations in the buildings concerned.

Analysing the approach adopted at KU Leuven shows that mobilising disability experience through accompanied building visits not only adds nuance to existing accessibility standards, but also offers rich insights into building qualities surpassing these standards (Vermeersch & Heylighen, 2015): vision impaired people mark acoustic and haptic qualities; those having some remaining sight pinpoint difficult lighting conditions; some autistic people are strong in identifying spaces' general atmosphere, providing insight into a building's legibility. By explaining the how and why, disabled people offer insight into solutions and the preconditions to alter them rather than merely apply them. These insights are important to architects for whom accessibility is but one of the aspects they must integrate into a design. As such, disabled people’s involvement may contribute to a more inclusive built environment by bridging two concepts architects that tend to consider as unrelated, that is, accessibility and spatial experience.

Because of this ability to appreciate qualities designers may not be attuned to, disabled people are increasingly valued as lead users in product and service design (Cassim & Dong, 2003, Hannukainen & Hölttä-Otto, 2006, Conradie, De Couvreur, Saldien, & De Marez, 2014). In architectural design, by contrast, disability experience is not commonly acknowledged as a valuable resource for design. In the exceptional cases where it is integral to the design process – for example, the design of the Olympic Park for the London 2012 Olympic and Paralympic Games – it turns out to be the key to the project's success (Fleck, 2015). Therefore we set out to explore to what extent the logic adopted at the micro-scale of the KU Leuven can be transposed to the macro-scale of architectural design practice.

Improving social relations: Strengthening disabled people's position on the job market

A second challenge Rent-a-Spatialist seeks to address is disabled people's vulnerable position on the job market. Compared to non-disabled people they have far less opportunities to employment and sustaining employment (Van Laer, Verbruggen, & Janssens, 2011, Moody, 2015). In Flanders, only 40% of them have a job (Werk.be, 2014). For severely impaired people, figures are even lower. The explanation for this low employment rate is twofold:

(1) employers are reluctant to hire disabled people because of fear or ignorance. They have difficulty to see beyond the impairment a person with particular skills and competencies, just like other people (Roulstone & Gradwell, 2003, Van Laer et al., 2011);
(2) as disabled people are often insecure to demand reasonable adaptations, their entry to jobs is literally restricted by the unsuitability of the workplace,

equipment, and job itself (Moody, 2015), and the lack of accessible public transport or other (in)formal support (Van Laer et al., 2011, Kulkarni & Lengnick-Hall, 2011).

If disabled people 'rent out' their spatial experience to inform architectural design practice, this is expected not only to 'give them voice' in studying their experience, but also to empower them to take up the role of and be rewarded as experts: as actors of innovation, they would partake in developing innovative design knowledge. In this way, Rent-a-Spatialist seeks to address societal challenges – designing a more inclusive built environment, addressing disabled people's structural unemployment – by acknowledging that those affected by them bring valuable skills to the table, and rewarding them accordingly. This would likely improve their self-esteem and self-reliance, which may help in convincing future employers of their competencies.

Methods and data

In exploring to what extent the logic adopted at KU Leuven can be transposed to architectural design practice, we addressed two aspects (see Fig.1): built environment professionals' interest, and the expected impact on disabled people's position on the job market. Given the exploratory nature of our study, we adopted a qualitative research approach (Creswell, 2003).

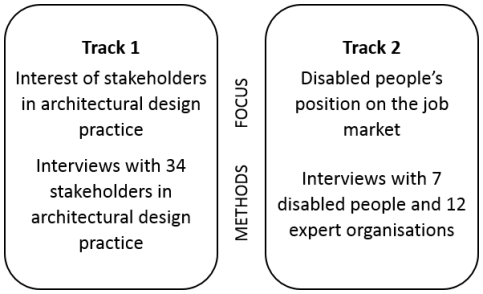

Figure 1. Research design.

Interviewing built environment professionals

We probed different built environment professionals' interest in the envisioned service. Since the situation in architectural design practice may vary between countries (e.g., due to differences in legislation), we focused on Belgium and the Netherlands. Including more countries transcends the study's scope.

By way of orientation, we subdivided architectural design practice into segments based on the literature (e.g., Neufert, 1998) and websites of Belgian and Dutch architecture firms. Through desk research we estimated which segments might be interested in the envisaged service, and be commercially attractive.

Segments identified as most attractive were examined in more detail: care & cure, living & care, offices, leisure & culture, research & education, residential, and exterior. Because of the many unknowns, we conducted semi-structured interviews (Mortelmans, 2013) with different purposefully selected individuals (Creswell, 2003) who can help understand the interest in the service in architectural design practice. Interviewees were involved in building construction (e.g., architects, building developers, officers) or exploitation (owners, operators, maintenance services, umbrella organisations).

Interviewees were selected based on (a) estimations made during orientation, (b) their ability to overview (part of) architectural design practice, and (c) their expertise within one segment. We contacted 31 people in Belgium and 25 in the Netherlands, 19 and 15 of which were interviewed respectively.

Except for one phone interview, all interviews – between 19 and 159 minutes – were conducted face-to-face (Mortelmans, 2013) and tape-recorded. General impressions were written down immediately after each interview. Interviews conducted

in Belgium were summarised. Because we were less familiar with the Dutch situation, interviews conducted in the Netherlands were transcribed. Interview summaries and transcriptions were analysed to explore to what extent interest exists in a consultancy service based on disability experience. Questions that directed the analysis include to what extent do interviewees experience a need for a service based on disability experience? And what kinds of services are desired?

Interviewing disabled people and expert organisations

We also explored to what extent partaking in the envisaged service would strengthen disabled people's position on the job market. To this end, interviews were conducted with purposefully selected individuals (Creswell, 2003) who have in-depth knowledge on disabled persons' employment issues in Flanders, that is, disabled people themselves and experts in workforce diversity.

Disabled people were recruited via the authors' network. Most interviewees had contributed to informing the redesign of one or more university buildings. They were selected based on three criteria: (a) being disabled, (b) having (had) a job, and (c) covering different kinds of impairments. This yielded interviews with five (electric or manual) wheelchair users, one vision impaired person, and one autistic person. Interviewees had a clear vision on why they were (not) working, and what was needed to perform well in the work place. Yet, their vision was limited in that they were not interested in partaking in the service themselves: they already had a satisfying job or had decided not to work for medical or other reasons. To gain a broader vision on the potential of the envisaged service we decided to include also younger disabled people (students): one wheelchair user and one autistic student. The interviews were semi-structured (Mortelmans, 2013). Topics discussed include previous work experiences, work-related conditions and expectations.

In addition, we interviewed 12 experts from organisations specialised in workforce diversity. The organisations were identified through snowball sampling with the aspiration to cover the Flemish landscape of vocational assistance for disabled job-seekers and employees and/or their (future) employers. The Belgian federal social security department was contacted to gain insight into which remuneration strategies are compatible with unemployment and other social benefits. Experts were selected by the contacted organizations. They were asked about their experience regarding employment issues and support for disabled people.

All interviews – between 45 and 60 minutes – were conducted face-to-face (Creswell, 2003, Mortelmans, 2013) and tape-recorded. General impressions were noted immediately after each interview. Summaries were made and subsequently coded, resulting in nine principles of employment. Topics that surfaced after the analysis of one interview were discussed more thoroughly in subsequent ones. All interviews were analysed a second time according to these principles, relationships between topics were sought and explored in subsequent interviews.

Ethics

The methods used underwent an ethical review by committees of the European Research Council and KU Leuven. Methods and intermediate findings were presented to and evaluated by a steering committee, composed of experts in architectural design, building accessibility, social innovation, technology transfer, and workforce diversity. Three experts have an impairment.

Findings

Interest from architectural design practice

To what extent is architectural design practice interested in a consultancy service based

on disability experience? Judging from the interviews with built environment professionals, answers are mixed.

On the one hand, several interviewees do not seem interested in such a service, be it for different reasons. Some indicate that economic **incentives** to attend to disability experience are perceived to be limited. A Dutch building developer testified:

> We know that when we create dissatisfiers in our plans, people may ignore our buildings. If we applied this to disabled people ... we could investigate whether there are dissatisfiers in our plans for this specific target group. We won't investigate this, at least not yet, … because the extent to which a crucial dissatisfier will become apparent is of such limited scope, that the commercial result of [such a building] won't be in danger...

Whether he might become interested in the envisaged service in the future, he found hard to say:

> As long as we're successful in the things we create, there's no drive to change things. ... At the moment that its purchasing power reveals that it's a relevant target group, we'd do it [investigate dissatisfiers], but as long as disabled people [as for their purchasing power] can be merged with the average target group, we don't take action.

Rather than by economic incentives, change seems to be driven by such incentives as certificates, standards and norms. Asked whether she might perceive a need for the service, a building operator from the care & cure segment replied:

> I think I would. However, I think that the hospital always has to cut costs ... If the government obliges hospitals to acquire the International Accessibility Symbol [ITS][3] ... then they will say ... we have to acquire [the symbol], otherwise we won't comply with the national requirements ... […] 'What's in it for me?' that's the question. The organisation won't make costs out of love for humanity. (laughing) I think if you want to offer a service you have to think about how to get it to the [hospital] board ... Certificates will help [to do so].

These incentives create a top-down accessibility framework of legislation, standards, certification systems and professionals, which objectifies disability experience. In Belgium this framework seems more institutionalised than in the Netherlands. Yet, in both countries, most interviewees frame their needs and wants regarding disability experience in this framework.

Another reason why several interviewees do not seem interested is that they mostly expect scientists or other professionals to research and frame disabled people's perspective in order to generate **"objective" knowledge**, rather than involving disabled people themselves. For example, a Dutch architect expects a service to provide measurable criteria. Regarding disability experience he confirmed that there is a need to evaluate the quality in the design phase, and that this quality should be measurable: "Yes, at the end you want measurable criteria."

On the other hand, several interviewees do seem interested in the service. A first reason for this interest is that it would offer support in designing accessible environments while addressing several shortcomings of the existing accessibility framework. While the framework is appreciated for representing a certain "truth", which can be regarded as an objectification, it does not satisfy all. To start with, dialogue with disabled people would allow for a more **in-depth accessibility evaluation** than the building regulation, as pointed out by a Dutch architect:

> What I'd like is the involvement of more kinds of expertise in the process ... there's no moment ... in which there's an accessibility evaluation. Alright there's an evaluation based on (sarcastic:) the three rules in the building regulation. ... That's very shallow. I agree that it'd be interesting to have an in-depth evaluation [during the design].

Moreover, it would allow addressing aspects that are not covered by legislation. A strength of the legislation, she mentioned, is "that it's measurable [...], but immediately

it can be regarded as the disadvantage, because many things aren't part of the legal regulations because they aren't measurable." What is important for design, may be precisely what is **not measurable**, as a Belgian architect suggests:

> I think that for us it's especially important to understand the question very well […] 'what is actually the question behind what is being said?' […] The underlying motivation is much more important to us, because we can work with it, and then we can seek solutions for it which someone else doesn't think about, well, that should be our added value, I think.

Two Dutch interviewees even suggest that a service based on disability experience could raise awareness about the imbalance between reality and the strict ITS accessibility norms, and could convince other stakeholders to abandon them. They see the service as a way to circumvent the need for meeting the norms, and an opportunity to implement alternative solutions instead.

A second reason why interviewees seem to be interested in the service transcends the accessibility framework, and relates to **spatial experience**. Only a few interviewees seemed to understand the envisaged service in this broader way, however. They showed interest either because of their personal situation, or because the segment they work in has customers in disabling conditions (e.g., care & cure) or explicitly attends to diversity (e.g., local authorities) or experience (e.g., museums). A Belgian architect testified how the client's explicit question was the starting point to transform a historic town hall into not just a literally accessible building but also a legible public building, which made accessibility an apparent theme. Asked whether there is a need for more insight into how disabled people experience the built environment, a Dutch architect replied:

> it's the least understood phenomenon how space is experienced. Look, we make architecture with a specific [visual] image and atmosphere, that's unequivocal. For

> blind people, for example, this image and atmosphere probably doesn't exist, and probably there are many people with another dominant sensory experience, than the [design] pallet and compositions we acknowledge and know. […] We think about how you enter a room and it starts small and gets larger, or about routes, sightlines […] We know that very well. How that works with sounds and resonating sounds for somebody with a [visual] impairment we know less. I think this would interest me most, because there's relatively little knowledge.

Third, some interviewees seem interested because of the **involvement of disabled people** themselves. A Belgian architect was particularly enthusiastic about this:

> It can surely be an added value. Because then you get input from a totally different perspective. For otherwise you get a perspective always from an architect, an engineer, a technical viewpoint, or whatever, colour specialist or whatever - as such all fine, but indeed, the final end-user who has to lie in that bed, or wheelchair, or whatever, how s/he experiences that space, [that]'s good.

Finally, several interviewees, especially architects, seem interested in the service because of the **university's involvement**. This "scientific" component is considered an added value as it might convince other stakeholders to opt for a specific design direction or solution. A Belgian architect thinks of demonstrating to clients how important a certain aspect is:

> We can say 'we don't want a stupid modular ceiling […]', [yet] if you can substantiate it with […] research, then it has a big added value. If it comes from us, it sounds differently than that it's scientifically grounded by a more neutral party.

The university's involvement seems to be appreciated especially as an argument from authority towards clients. Without it, the architects themselves would still be interested in the service.

In summary, judging from the interviews, built environment professionals currently have various reasons not to make use of the service, despite its interesting features; however, this may change if one brings together and motivates the right people, as a Dutch architect suggests:

> When you're looking for it, then you will find other parties. However you have to seek it and create [a market] yourself. There's a kind of common view on our profession and the things we're doing ... We recognize this in different aspects, but you have to organize it yourself. We think it's a collective mission to create a market. This sounds very commercial, but the driving force is a sense of responsibility.

Strengthening disabled people's position on the job market

To what extent would the envisaged consultancy service strengthen disabled people's position on the job market? Interviews with disabled people - employed or not - and expert organizations, highlight its potential **societal effects**.

On the one hand, interviews suggest that disabled employees' presence in the workplace **stimulates awareness and acceptance of difference** within the organisation, which can influence society at large. The disabled interviewees regularly talked about their mission as "ambassadors" to make disability more accepted in the organisation or society at large.

When talking about their experiences in informing the redesign of university buildings, the interviewees frequently mentioned the same mission. They had the feeling that they could persuade the architects involved of their value by providing insights into their own experience. As mentioned, people are often excluded not because of attitude, but because of ignorance or fear. By signalling possible obstacles and offering reasonable solutions, disabled employees can make co-workers aware that being different does not necessarily mean being unreasonable or a burden. Co-workers

who are comfortable with difference and disability can spread these notions through their social networks. Moreover if organisations are successful regardless of employing less “normal” employees and make an effort for them, this can differentiate the concept of normality within society; the more successful organisations with disabled employees, the more impairments will be accepted on the work floor and in society at large. Employing disabled people thus has a societal value. An interviewee formulated it as follows:

> Rather than pointing a finger at someone, I try to make people comfortable with the fact that there are people in a wheelchair who do things and that this isn’t a problem and that it's also not terrible if they have questions about it in the beginning.

On the other hand, the interviews suggest that acquiring work experience may **empower** disabled people **as societal actors of equal value**. Nowadays many of them do not work because of the high social benefits and are seemingly not encouraged to claim a strong position. Professional success may bring on the self-confidence to speak up and demand more rights. This may foster a societal shift towards a more inclusive society that considers differences an asset rather than a problem.

The interviews also brought to the fore six **principles of employment,** which offer guidelines for any organisation wanting to adopt a responsible policy regarding disabled employees:

(1) employers should foresee a well-functioning back-up and **support** system, including a contact person, role models, and sufficient information regarding diversity and disability in the organisation;

(2) **expectations** regarding the job, assistance, adaptations to the work place, etc. should be articulated clearly and communicated openly by the employer, disabled person, colleagues and HR department;

(3) **inclusion** should permeate all aspects of employment, implying a social atmosphere in the workplace, an accessible work environment (e.g., staff room), and accessible social activities;

(4) employers should be up-to-date regarding subsidy possibilities and use them in a sustainable and creative way. Having available a **budget** for reasonable adjustments is a requirement to hire disabled people;

(5) organisations employing disabled people should adopt a **person-by-person approach**: since every disabled employee is different, an overall and standardised approach is impossible;

(6) disabled employees (like others) should receive well-structured **training** opportunities and honest performance feedback.

Regarding the envisaged service's potential, three principles are particularly relevant.

Principle 4 draws attention to the service's remuneration aspect. Interviews suggest that, in Belgium, social benefits for disabled people are highly inflexible. As a result, participating in a paid service would be too risky as they would lose all these benefits. One interviewee mentioned the high benefits as a reason why he is not working. As a result, many disabled people volunteer instead of work. For them, working seems profitable only for a longer period and within a well-protected employee status. Finding people willing to participate in the service may thus be a challenge.

Principle 5 highlights the uniqueness of every disabled employee, which makes standard approaches useless. To start with, differences exist among different impairments. Conditions for working and needs in the workplace advanced by the

interviewees strongly depend on the person and kind of impairment. Asking employees what they need is thus crucial. Making assumptions in advance is useless. Every disabled employee is different and therefore has to come up with their own solutions regarding disability related issues. In this respect, Rent-a-Spatialist would allow disabled people to figure out what their particular needs as employee are, and which solutions work for them, so they can refer to this experience when applying for another (regular) job.

This brings us to the focus of principle 6: training, which includes acquiring experience in being employed. In searching for a job for disabled people, the experts considered work experience as highly important. Future employers have more confidence in someone with work experience. This holds for all employees, but certainly for disabled ones. Employers' fear of the impairment disappears more easily if disabled employees are confident and can come up with solutions for specific disability-related issues. By being employed, disabled people can educate themselves in how to behave in the workplace. Gaining insight into work circumstances differs from gaining personal experience. For example, a disabled person can be able to function in society, but not know what to do in a work environment. Knowledge about the latter can help disabled people in persuading future employers. This is precisely what the service aspires: enabling disabled people to obtain work experience to give them a head start into finding future employment. One interviewee stressed that, due to his work experience, he feels stronger, as a person and as an employee. The students saw the service as a way to create more opportunities for themselves on the job market. This potential was confirmed by the expert organisations:

> for jobseekers [with an impairment] if you already could mention some items on your cv, then the employer will be more eager to look behind the impairment… if you could refer to 'how is that [office] adapted'…or if you could put it

> concretely…this is an easy solution [for that disability-related problem]…this is due to work experience…it's different from daily life experience.

Discussion and Conclusion

Rent-a-Spatialist addresses societal challenges by trying to socially innovate architectural design practice in collaboration with those affected by it, acknowledging the skills and expertise they can bring to the table and rewarding them accordingly. Like other social innovation initiatives, addressing these challenges connects improving material conditions (c.q., designing a more inclusive environment) with improving social relations (c.q., disabled people's position on the job market). We explored to what extent the logic adopted at the KU Leuven's premises can be transposed to architectural design practice. The exploration was motivated by the observation that disabled people are able to appreciate spatial qualities architects may not be attuned to. This ability, combined with disabled people's vulnerable position on the job market, triggered the idea to mobilise disability experience as a consultancy service to inform architectural design practice. Exploring the potential of such a service yielded mixed results.

Interviews with built environment professionals suggest that most of them show an interest in gaining knowledge about disability experience. Many frame their needs and wants in terms of the **top-down accessibility framework** of legislation, standards, certification systems and professionals. Questions arise as to what extent this framework accounts for people's spatial experience if it is presented as objective, and whether it should not be embedded more adequately. Moreover, rather than in a project-specific service, architects seem interested in **general knowledge**. This might relate to the fact that architects are less used to involving users - disabled or not - during design than product or service designers (Sanders, 2009),[4] explaining why disability experience

is acknowledged in product and service design (Conradie et al., 2014), but less in architecture.[5] Further research is needed to understand how lead users can become more involved in architectural design practice. With an eye to encouraging and supporting this involvement, we are currently investigating to what extent techniques for involving lead users from other design disciplines, could be relevant for architectural design practice.

That disabled people's perspective allows **bridging accessibility and spatial experience** is recognized only by some interviewees from segments where experience is considered important or customers find themselves in disabling conditions. In these cases the driving force to bridge accessibility and experience is not an economic incentive, but a sense of responsibility. The latter seems to derive from a better understanding of (disabled) people's different needs and perceptions due to interaction with (potential) customers or disabled people in the private atmosphere.

Because interviewee samples in each segment are small, the results cover the spectrum across architectural design practice, but not necessarily all specificities within each segment. However, we think that the findings reflect the general attitude, because most architecture firms interviewed work in multiple segments. On average, for each segment we were informed by seven Belgian and five Dutch interviewees, who mostly gave similar responses.

Interviews with disabled people and expert organisations revealed six principles of employment, in line with findings reported in literature (e.g., Van Laer et al., 2011, Värlander, 2012, Kulkarni & Gopakumar, 2014). These principles suggest that the envisaged service holds potential to strengthen disabled people's position on the job market by enabling them to gain work experience. However, because social benefits for disabled people are highly inflexible, at least in Belgium, participating in a paid service

likely is too risky. This suggests that, besides the explanations for disabled people's low employment rates found in the literature (Roulstone & Gradwell, 2004, Van Laer et al., 2011, Kulkarni & Lengnick-Hall, 2011), in Belgium a third explanation relates to policy: disabled people in Belgium, interviews suggest, are not encouraged to seek a job as their social allowance approximates a full-time salary and disappears once they are employed. Moreover, once they choose to let go of the allowance it is more difficult to get it back. This seems to indicate that, if the service is to attract disabled employees, creating a **steady and trustworthy work environment**, supported by the principles mentioned above, will be necessary. Other statuses than employee either assume that the individual is in a strong position (e.g., freelancer, worker-owner in a cooperative) whereas disabled people's position is typically weak, or do not contribute to strengthening this position (e.g., volunteer).

Our study covered only a limited number of impairments, which may affect its validity. Moreover the disabled people interviewed were recruited via organisations of or for disabled people. Disabled people not engaged in such organisations might consider the envisaged service more problematic because they prefer not to draw attention to their impairment. Future research should therefore extend the study towards more participants and other impairments. This should provide insight into the optimal and feasible team composition, taking into account financial aspects, workload, the spectrum of impairments, and practicalities (e.g., transport). Moreover, it may be worth investigating whether creative use of employee statutes might offer a solution in an early phase of the service, when a steady revenue might not be guaranteed, for example, by hiring disabled students for a student job. Future studies could also examine to what extent social benefits for disabled people can be made more flexible. Awaiting these studies, we developed the principles brought forward in the interviews into a guide for

employers (Meulenijzer et al., 2015). As the principles' relevance transcends the scope of the envisaged service, we consider this guide as an extra channel to strengthen disabled people's position on the job market.

To conclude, Rent-a-Spatialist attempts at socially innovating architectural design practice by mobilising disabled people's expertise. Earlier research demonstrated its potential to improve material conditions – c.q., contribute to a more inclusive built environment by bridging accessibility and spatial experience (Vermeersch & Heylighen, 2015). The study presented here confirms its potential to improve social relations – c.q., strengthen disabled people's position on the job market by enabling them to gain work experience, which is expected to give them a head start in finding future employment. Moreover, exploring the interest in Rent-a-Spatialist offered a nuanced insight into mechanisms of exclusion and inclusion. Our study made clear that the top-down accessibility framework leaves little room for "experience" and that interest in the service is limited because disabled people are considered a minority that economically does not need to be taken into account. It also revealed that policy measures in Belgium might make it less attractive for disabled people to look for a job, leading to exclusion. If Rent-a-Spatialist is to become a "workable 'utopia'" (Moulaert et al., 2013), however, efforts are needed to convince built environment professionals of its added value, and to clarify issues related to disabled people's employee status.

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Notes

1 Part of this article was presented at PIN-C 2015 (Schijlen, Van der Linden, Meulenijzer, Vermeersch & Heylighen, 2015).

2 Depending on the continent or region, inclusive design is also called Universal Design (USA and Japan), or Design for All (Continental Europe). While some differences might exist between them, in the context of this article they are considered similar.

3 ITS is a Dutch certification given to buildings that comply with diverse accessibility standards and norms.

4 Recently, architectural and urban design practice in Belgium and the Netherlands seems to witness some changes in this respect (Oosterlynck & Debruyne, 2013, de Graaf, van Hulst, & Michels, 2015), be it not particularly in relation to participation of disabled people. Whether these changes will develop into a sustainable trend remains to be seen.

5 Another reason why disability experience is not used in design may be that product and service designers might perhaps create specific products and services for disabled people, while architects have to create environments for a wide variety of users.

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