



# **SOCIAL SERVICE ENGINEERING FOR INCLUSIVE WORKPLACE DESIGN**

***Christiane Reischl***

Institute of Social Work  
FH JOANNEUM University of Applied Science (Austria)  
E-Mail [christiane.reischl@fh-joanneum.at](mailto:christiane.reischl@fh-joanneum.at)

***Stefanie Hatzl***

Department of IT & Business Informatics  
University of Applied Sciences CAMPUS 02 (Austria)  
E-Mail [stefanie.hatzl@campus02.at](mailto:stefanie.hatzl@campus02.at)

## **Abstract**

Based on the existing inequality of opportunities in the labor market, this paper deals with a sustainable inclusive design of workplaces. Current workplaces are characterized by structural conditions that make inclusion difficult. Although there are many offers (technical products and services, contact points, public funding, training, etc.) to enable people with special needs to participate in the labor market, these are decoupled from potential employers and are poorly networked among themselves. We combine empowerment approaches from social work with service engineering from engineering perspectives to demonstrate inclusive workplace design.

Using a literature-based discourse analysis, we describe methods from both disciplines and reflect on them in relation to practical implications.

Among other things, we ask how user-centered design and participation management complement each other for inclusive workplace design.

Empowerment is a resource-oriented concept of social work that focuses on people's strengths in coping with critical life events, such as discrimination in the labor market due to special needs of different target groups (e.g., people with disabilities, migrants, elderly people or single parents). Service systems engineering tries to combine the technical development view with the development of new forms of interaction in a service system. Inclusion is nowadays often enabled by technical assistance systems, whereas service engineering offers approaches for the design of human-machine interaction.

The combination of concepts, approaches and perspectives from both disciplines is considered worthy of discussion.

## **Keywords**

inclusive workplace design, empowerment in social work, human-centered design, usability, social service engineering

## Introduction

Unequal treatment in the labor market has been a much-discussed problem for a long time. Different target groups (e.g., people with disabilities, people with migration biographies, people over 50, single parents or people caring for relatives) are confronted with obstacles that make equal participation in the labor market difficult or even impossible. The INCLUDE project (Reischl et al., 2021) has shown that the reasons for the exclusivity of jobs for people without additional needs are often not so much the lack of skills or competencies of the aforementioned target groups, but rather ignorance or prejudice on the part of employers. The corporate culture is considered to play a major role in the question of how inclusive work can succeed. It is a fact that the target groups do not have the same chances on the labor market as other job seekers (Hofer et al., 2013; Maurer & Spielmann, 2017; Philipp et al., 2014; Sprengel, 2021). Although there are subsidies, for example in the context of vocational rehabilitation after accidents with permanent disability (PVA, 2021), to enable a (re)entry at least for people with disabilities. However, the structural framework conditions are sometimes very complicated. Therefore, they are not very helpful for employers as well as for the target groups themselves. On the one hand, the target groups are overwhelmed with the offices to be contacted or the amount of forms to be filled out for an approved grant. On the other hand, due to the complexity and opacity of the processes, employers primarily associate it with a lot of effort and comparatively little benefit. The Bavarian state ministry for family, labor and social affairs defines inclusion (with a focus on people with disabilities) at the workplace as the existence of equal opportunities for people with and without additional needs. At the company level, an inclusive corporate culture means that people with and without additional needs work together as a matter of course and that managers set an example of acceptance, fairness and mutual helpfulness. It is important that people with additional needs are not given preferential treatment but are supported in such a way that they can achieve the best possible performance. This means that workplaces, workflows or working time models may have to be adapted to the needs of the respective target groups (IIB, 2021).

This adaptation is increasingly characterized by digital solutions. Speech assistants or smart speakers support people with a migration background, older people and people with disabilities in reading and understanding language (Sciarretta & Alimenti, 2021). Screen readers, magnification software, electronic braille, etc. are, among others, assistance technologies that support people with a visual impairment, where the design of the technology in terms of enabling collaborative work can have added value towards inclusion (Wahidin et al., 2018). Process-oriented assistance systems for manufacturing environments use motion sensors to monitor tasks, including for older workers facing short-term memory decline, to respond discretely in the context in which an error occurs (Brach & Korn, 2012). It is important to keep in mind, however, that technologies must also be adopted by the particular person who is using them in order to provide the actual support services necessary for participation, to be as equal as possible. The question therefore arises as to how workplaces with (digital) assistance technologies can be designed for inclusion so that they meet the needs of both companies and, above all, employees.

In the context of this question, a recent contribution by Meyer (2020) raises attention. In the context of technological and social changes, he postulates the necessity to design interaction work - i.e., work in interaction with people and in interaction with technology - in a way that is suitable for people, whereby he understands this to mean the design of a work system as a service system. Accordingly, one challenge is to develop solutions and approaches to designing the service system as well as human work within or with these systems (Meyer, 2020, p. 52).

One solution the author proposes in this regard is the combination of a work science approach and an engineering approach (specifically, the service engineering approach). While the former takes into account, among other things, social, psychological and health aspects in workplace design and focuses on the human being as the working person, the latter focuses primarily on process orientation, standardization and the use of resources and places the emphasis on optimal performance-oriented interaction between people and between people and technologies (operational perspective) in the foreground. The two approaches thus complement each other to form what is called by the author as a social service engineering approach, in order to take into account the interests of the various actors in the service systems (customers, employees, management) in the workplace design (Meyer, 2020, p. 57).

In the context of a social service engineering approach - i.e., taking into account social science and engineering aspects - this paper aims to discuss the design of inclusive employment practices. Inclusive employment practice is further defined here as a needs-based work system design that takes into account the interest of employees to perform fully interactive activities with/and through (assistance) technologies and for customers, but also considers the interests between employees and the company. The aspect of participation for the creation of inclusive employment practices functions as a common discussion approach, as this plays a role in both social sciences (here: the field of social work) and engineering (here: the field of service engineering).

Based on the INCLUDE project, the following section points out the barriers that still stand in the way of inclusive employment. Subsequently, two approaches are presented that can act together as a solution to the problem: human-centered-design or user experience and usability from service (and software) engineering and participatory empowerment from the social work field. Finally, the approach of social service engineering is discussed and how it can be used on both an individual and organizational level to promote inclusive employment in everyday work.

## **1. The INCLUDE project as motivation for concepts of participatory and inclusive corporate culture**

In the context of the INCLUDE project gaps between requirements of workplace activities and requirements from the perspective of people with limitations (target groups: people in wheelchairs, people with visual impairments, migrants, single parents, elderly) were identified. Thus, the activity analysis showed that occupations with a low skills profile are not only physically but also cognitively demanding (this emerged in particular for partially automated sorting and cleaning activities as examples). The perspectives of the target groups revealed that it is not so much physical barriers that need to be overcome by means of digitization, but rather mental barriers in people's minds that make improved participation in working life difficult. Likewise, a key feedback from the target groups was that while some digital solutions were already known, there was a lack of practical access to them. In addition to the existing barriers, there were still a number of bureaucratic hurdles to be overcome, for example, in order to obtain funding for assistive technologies. The research on assistive technologies revealed that there are already a large number with a high degree of technological maturity and even dedicated databases for them. Finally, conclusions from the acceptance evaluation of assistive technologies in the INCLUDE project were that for successful implementation a mix of measures consisting of adaptable technologies, training and backing of the companies with the target groups is needed.

Different conclusions can be drawn from this. Application processes should focus on a person's suitability in terms of specific job requirements. Far too often, the target groups studied are confronted with prejudices, so that they are not considered for employment in advance or are met with hostility at work as a result. The project has found that through thoughtful discrepancy analysis between job requirements and needs, much more is possible than previously thought. Furthermore, it turned out that work inclusion seems to be primarily an issue of corporate culture. Socially committed companies in particular also strive to employ a diverse workforce and enable people with additional needs to participate. For many other companies, however, mental barriers stand in the way, making it difficult to consider the issue from the outset. Work inclusion is often associated only with effort. Structural barriers at the state level (e.g., non-transparent funding structures) are an additional obstacle. Therefore, innovations on the structural level and measures to raise awareness on the mental level seem to be the most effective. Finally, to promote inclusion in the labor market, strategic partnerships are needed at several levels. On the one hand, it is up to policymakers to create structures that are manageable for those affected as well as for companies. Measures to raise awareness, especially among companies, should also be initiated politically. On the other hand, it is up to companies to enable inclusion for affected target groups. Finally, however, it is also the responsibility of the people affected themselves, who should be able to clearly state, in the sense of empowerment, what kind of measures they need in order to be able to participate in working life on an equal way and how these should be provided.

What emerged very clearly from the project is the need for increased involvement of both companies and target groups in inclusion processes that start from a political and structural level and include a workplace design that promotes interaction between people and assistive technologies. In addition to the creation of structural framework conditions, a promising approach for more networking between relevant actors seems to be participation.

Thus, the INCLUDE project demonstrated the relevance of participation and networking between stakeholders. Approaches to the participation of people relevant to a specific project (e.g., implementation of digital solutions to promote digital transformation and inclusion of people with special needs) already exist from the perspective of different disciplines. Based on Meyer's (2020) appeal to establish a social service engineering approach, the following chapter considers participation, as an important aspect in workplace design, from a social and work science perspective as well as from an engineering science perspective.

## **2. Two perspectives, one focus - participation in social sciences and engineering**

### *3.1. Participation and empowerment*

Participation and empowerment are terms that are often used synonymously in social work, although they are two concepts that can be distinguished from each other but are intertwined in relation to work with clients. In the following, social work conceptualizations of participation and empowerment are presented.

According to Fritz (2015), participation in social work is a negotiation process that ensures clients' equal and free participation in society and in which clients' interests are negotiated by involving them in decisions and processes (Fritz, 2015, p. 204). Empowerment, by comparison, is about supporting people to gain more control over their lives, encouraging and enabling them to stand up for their goals and join forces with others to reduce grievances (Straßburger & Rieger, 2014, p. 44). Seen in this light, participation is to be understood as a subarea of empowerment, since empowerment can be achieved through participation. A participatory

approach in social work practice presupposes the self-determination of clients (Straßburger & Rieger, 2014, p. 44-47). According to Straßburger and Rieger (2014), participatory social work can be viewed from a profession-centered and person-centered perspective. Table 1 presents on the left side the different ways of participation from a professional perspective. In the preliminary stages of participation, one gives clients information about the topic at hand, asks their opinion about it, and does all this in the context of lifeworld orientation. The actual participation stages then lead to allowing clients to participate in decision-making, to the partial relinquishment of decision-making authority and finally to the transfer of complete decision-making power. On the right, the possibilities of participatory action on the part of clients are shown. Here, the preliminary stages of participation are the independent gathering of information, the client's own statement in the run-up to decisions, and the procedural provision of contributions to the decision-making process. Building on this, the client-centered participation levels are participation in decision-making, using the freedom of self-responsibility, exercising actual decision-making freedom, and finally civic engagement. The half-point of the pyramid results from this highest possible level of client participation, since at this level professional support is no longer necessary.

**Table 1: Participation from an institutional-professional and client perspective**

<b>Participatio form an institutional-professional perspective</b>	<b>Participation from a client perspective</b>
Stage 1: Give information	Stage 1: Get information
Stage 2: Request opinion	Stage 2: Take a stand in the run-up to decisions
Stage 3: Obtain lifeworld expertise	Stage 3: Make procedurally foreseen contributions
Stage 4: Allow co-determination	Stage 4: Participate in decisions
Stage 5: Partially transfer decision-making	Stage 5: Use the freedom of personal responsibility
Stage 6: Transfer decision-making power	Stage 6: Exercise civil decision-making freedom
	Stage 7: Civil society's own activities

Source: Own representation based on Straßburger & Rieger, 2014.

Cattaneo and Chapman (2010) describe empowerment as an iterative process consisting of the six elements of (1) power-oriented goals with personal meaning, (2) self-efficacy, (3) knowledge, (4) competence, (5) action, and (6) influence. They emphasize that all elements of the process model they developed, as well as their relationships to each other, are influenced by the social context. On the one hand, this social context limits a person's influence, which increases as the empowerment process progresses individually. On the other hand, the social context impacts the power relations and hierarchical structures from which individuals gain advantages in order to gain in turn power by themselves. Thus, Cattaneo and Chapman define empowerment as a process in which a powerless person who has set a meaningful goal for him- or herself to increase his/her power takes action to achieve that goal. In particular, this person reconsiders the impact of his or her actions and reflects on his or her self-efficacy, knowledge, and competence in relation to the goal. The empowerment process is not linear or steadily progressing toward goal achievement. Rather, it is the case that the various process elements to achieve a goal must be gone through multiple times. The increasing experience gained during this developmental process also results in multiple reassessments of the situation, which in turn result in an adjustment of cognitions and actions (Cattaneo & Chapman, 2010, p. 651-654).

According to Pankofer (2000), it is necessary to consider empowerment at different levels. On the individual level, empowerment aims at "learned hopefulness" as a counter-concept to "learned helplessness". In situations characterized by helplessness, powerlessness, resignation and demoralization, people begin to take their plans, their lives back into their own hands and to organize themselves, also together with others. In order to develop self-confidence at the level of groups and organizations and to perceive and use one's own strengths, participatory decision-making structures are necessary. Motivating aspects of so-called empowering organizations are, for example, the development of new skills through active participation in groups, the cultivation of social relationships within organizations, or the introduction of structures that stimulate the transfer of one's own competencies to others. Other essential characteristics are an open leadership culture and the implementation of collaborative projects and activities to enable the optimal interaction of the motives of the individual and the organization. Finally, at the structural level, empowerment means a successful interaction of individuals, organizational associations, and structural frameworks under a supportive atmosphere, all in the context of society (Pankofer, 2000, p. 14).

After outlining the basic principles of participation levels as well as the empowerment process, the next step will explain how participation and user experience of the affected target groups can contribute to design workplaces in companies more inclusive.

### *3.2. Participation and user experience or human-centered design*

In addition to the direct focus on participation in the social sciences, the approach can also be found in the engineering disciplines of service engineering. The focus here is on the development, shaping and design of technical or IT artifacts in an interaction process with humans. The design of this human-machine interaction process can now be seen, with special consideration of an inclusive employment practice. The main focus is to involve the persons to be included in the process of development and design of the interaction activity. The importance of human participation in the design of human-machine interaction is demonstrated by a large number of studies (e.g., Boy & Riedel, 2009). Methods for human participation in the design and implementation of technology - be it a special assistance technology or other digital technologies - include human-centered design (HCD) and user-friendly design (user experience and usability, UX). These two methods are influenced by a systemic understanding when it comes to designing human-computer interaction (Baxter & Sommerville, 2011). Therefore, they also play a role in service engineering, especially in the area of designing and evaluating a workplace equipped with digital technologies (e-services), as a socio-technical system and will be presented in the following.

User experience and usability are important approaches in the practice of product and software development in order to fulfill the needs of users with regard to human-computer interaction. Especially in the field of assistance technologies, usability is of relevance, since it is the everyday experience that decides about the joy or frustration of the user and thus about the acceptance of a technology (Choi & Sprigle, 2011). The terms user experience and usability are closely related, with user experience being understood more broadly as the achievement of human satisfaction and performance. Usability, on the other hand, is understood as several methods to test user experience. In the ISO standard 9241-201 the term usability is defined as "[e]xtent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." (Thoden et al., 2017, p. 3) Winter et al. (2015) provide a systematic overview of how products or services are to be designed so that the user experience is high and thus quality requirements are met. These include, among other things, the timeliness of information, e.g., of information

systems; adaptability to the user and his or her needs; convenience in the sense that the product or service provides relief and facilitation; ease of learning and comprehensibility; efficiency in the sense of minimizing the time and physical effort; identity that is created with the product or service; intuitive usability; usefulness; controllability in the sense of control and robustness; beauty and value. Looking more concretely at usability testing, we can see how it examines whether human needs are taken into account in the design and development of artifacts. Usability testing comes from the field of experimental psychology and human factor engineering and postulates an iterative process between design of an artifact and evaluation by users (Lewis, 2006). This is done in formative or summative study settings with methods such as think-aloud, where participants are asked to share their thoughts while interacting with the product (Barnum, 2020).

Human-centered design (HCD) comes from the fields of ergonomics, computer science, and artificial intelligence, which is reflected in the definition of HCD according to international standards such as ISO 9241-210 (Giagomin, 2014). Specifically, ISO 9241-210 recommends six characteristics to implement HCD according to Ecker (2015, p. 4-6):

1. Design is based on a comprehensive understanding of users, work tasks, and work environments
2. Users are involved during design and development and are an important part of it
3. Refinement and adaptation of design solutions is continuously driven on the basis of user-centered evaluation
4. Iterative processes
5. Design takes into account the entire user experience
6. Interdisciplinarity in development in the sense of multidisciplinary knowledge and viewpoints

A term that is used synonymously with the term HCD is the term user-centered design (UCD). In this regard, Ecker (2015, p. 2) notes: "User-centered design is an important design method that places people at the center of action. User-centered - or somewhat more generally - human-centered design, with its task-analyzing methodology, is very well suited to precisely specified tasks or areas of application. This is essentially achieved by placing the future user of a product with his or her tasks, goals, and characteristics at the center of the development process." Thus, HCD or UCD is based on the design principle of an explicit understanding of the user, her/his tasks and the environment in which these tasks will be performed with the system/product. Furthermore, in its socio-technical approach, HCD takes into account the specification of the context in which the system is to be used and explicitly refers to social and cultural factors, including working practices and the structure of the organization (Baxter & Sommerville, 2011).

### **3. Discussion**

From a social work perspective, it was explained how participation is to be understood as part of empowerment. Participation happens on two sides, that of the supporting profession and that of the potential participants. With supporting professions in the context of inclusive work, all possible counseling services for persons from the affected target groups as well as companies that want to implement inclusive workplaces are meant. Thus, the target groups and the companies are the actual participants. Thus, a key role in this context is played by counseling centers. Due to the increasing importance of diversity management methods, company social work could play an important role in this context in the future. Prerequisites for empowering

counseling centers are adequate (state) funding (especially through subsidies), networking among each other as well as simply structured framework conditions (provided by the state) so that both interested target groups and companies can be counseled and empowered in an uncomplicated manner. Knowledge about the latest possibilities, especially with regard to assistance technologies, should flow quickly to advisory centers. A central working principle of professional social work is to offer assistance to target groups so that they can subsequently help themselves. This is exactly the approach that empowerment counseling centers should follow, both with the affected target groups and with companies that want to implement inclusive employment practices. In the spirit of an inclusive corporate culture, managers should be sensitized and trained in the efficient and effective management of a diverse workforce - there is talk of "inclusive leadership" (Zeng et al., 2020). In any case, it is important that affected target groups are not given preferential treatment but treated equally. At the end of the day, the performance of both people with and without additional needs counts. However, in order to be able to provide them as equally as possible, the basis must be created, e.g., in the form of assistance technologies.

Thus, empowerment creates an inclusive employment practice by bringing inclusive leadership, which holds great promise for the workplace, to the center. The empowerment approach can thus be seen as a method in social service engineering that primarily creates long-term, social contextual conditions for inclusion. Empowerment helps to promote human-human interaction by empowering people from affected target groups, thus changing socio-technical structures.

Looking at empowerment on an individual, organizational, and structural level, as Pankofer (2000) does, one can draw the connection to the engineering approach - service engineering - and its view of participation. In contrast to empowerment, which shapes the social context (human-human interaction) of a workplace towards inclusion on the aforementioned three levels, the HCD or UX approach only develops the workplace in this direction on an individual level and to a certain extent on an organizational level by focusing on the technical context (human-machine interaction). Here, the technology or digital solution approaches can be the means to an end to achieve the self-efficacy, knowledge and competence demanded in the empowerment approach. Here, however, a broad aspect of participation is required, because without the participatory methods such as the HCD or the UX, the empowerment approach cannot fully unfold. This means that if, for example, a person in a wheelchair is not involved in the design of his or her workplace in the sense of HCD or UX, so that he or she can do the same work as everyone else, and the organization imposes something on him or her in a top-down manner without a say, then he or she will not gain a sense of self-efficacy, knowledge and competence. Only when disadvantaged people participate in the design process of an inclusive employment practice will they be able to perceive these aspects from dealing with the digital solution approach. How such a design process can look like is concretized in the HCD or UX. The principles of the approach are to place people at the center, to develop the technology or system iteratively, and to adapt it to the needs of the users. Even if efficiency and effectiveness are important aspects in the evaluation in the sense of usability testing, the satisfaction and other needs of people as users of systems must still be considered as a primary goal. Designing the workplace with possible (digital) assistive technologies in the context of an HCD or usability approach can provide acceptance concerns that promote long-term use and thus inclusive employment practices.



## 4. Conclusion

Social service engineering as a link between inclusive leadership and a human-centered design of assistive technologies for affected target groups forms a promising approach for the broad implementation of inclusive employment practices. However, this inclusive form of organizational culture faces many obstacles. Inclusive employment can only happen through combined top-down and bottom-up activities. Top-down, it is up to policy-makers to ensure funding for guidance on inclusive employment on the one hand, and to create easily manageable structures for handling financial support, e.g. for assistive technologies, on the other. Bottom-up, both the target groups and the companies can become active by means of participatory empowerment, e.g., in the form of social service engineering on the target group side and inclusive leadership on the company side. The central key role is played by advisory bodies, which can pave the way for an inclusive culture in companies. This consulting can be organized both by the state and by companies (in the form of company social work) as well as privately (in the form of customary consulting with a focus on inclusion) and civically (various associations of interest groups).

## References

- Barnum, Carol M. (2020): Usability Testing Essential – Ready, Set ... Test! Amsterdam: Elsevier.
- Baxter, Gordon / Sommerville, Ian (2011): Socio-technical systems: From design methods to systems engineering. *Interacting with Computers*, 23, 4-17.
- Brach, Michael / Korn, Oliver (2012): Assistive technologies at home and in the workplace – a field of research for exercise science and human movement science. *European Review of Aging Physical Activity*, 9, S. 1-4.
- Boy, Guy A. / Riedel, Nadja (2009): Participatory human-centered design: User involvement and design cross-fertilization. *Proceeding of the 2009 Human-Computer Interaction International Conference*, San Diego.
- Cattaneo, Lauren B. / Chapman, Aliya (2010): The Process of Empowerment. A Model for Use in Research and Practice. In: *American Psychologist*, 65, 7, 646-659.
- Choi, Young Mi / Sprigle, Stephen H. (2011): Approaches for Evaluating the Usability of Assistive Technology Product Prototypes. *Assistive Technology*, 23:1, S. 36-41.
- Ecker, Manuel (2015): Usability und Usability Engineering zur Gestaltung von Lernsystemen. User-centered Methoden zur nachhaltigen Entwicklung digitaler Bildungsangebote. Weingarten: Pädagogische Hochschule Weingarten AG Mediendidaktik und Visualisierung.
- Fritz, Florence (2015): Was können wir von KlientInnen lernen? Potenziale internationaler Modelle der NutzerInnenbeteiligung bei einer Übertragung auf die österreichische Sozialarbeitsausbildung. In: *Soziales Kapital*, 14, 203-216.

Giacomin, Joseph (2014): What Is Human Centred Design?. *The Design Journal*, 17, 4, 606-623.

Hofer, Helmut / Titelbach, Gerlinde / Weichselbaumer, Doris / Winter-Ebmer, Rudolf (2013): Diskriminierung von MigrantInnen am österreichischen Arbeitsmarkt. Studie im Auftrag des BMASK. Endbericht, <https://www.ihs.ac.at/publications/lib/IHSPR6311119.pdf>, (23.07.2021).

IIB – Inklusion in Bayern (2021): Arbeitswelt inklusiv: Worum geht es? Arbeitswelt inklusiv: Worum geht es? <https://www.arbeit-inklusive.bayern.de/so-klappts-miteinander/worum-geht-es/index.php>, (23.07.2021).

Lewis, Jamen R. (2006): *Usability Testing*. Florida: IBM Software Group.

Maurer, Martina / Spielmann, Viktoria (2017): Frauen und Männer am österreichischen Arbeitsmarkt: Eine Analyse der Abt. Arbeitsmarktpolitik für Frauen des AMS Österreich für das Jahr 2016 unter besonderer Berücksichtigung der AMS-Gleichstellungsaktivitäten. In: *AMS Info*, 398, 1-4.

Meyer, Kyrill (2020): Vom Service Engineering zum Social Service Engineering – Anforderungen an die Schnittstelle zwischen Dienstleistungsentwicklung und Arbeitswissenschaft. In: *Zeitschrift für Arbeitswissenschaft*, 74, 1, 52–58.

Pankofer, Sabine (2000): Empowerment – eine Einführung. In Miller, Tilly / Pankhofer, Sabine (eds.): *Empowerment konkret! Handlungsentwürfe und Reflexionen aus der psychosozialen Praxis*. Stuttgart: Lucius & Lucius, 7-22.

Philipp, Simone / Meier, Isabella / Starl, Klaus / Kreimer, Margareta (2014): Stand der Forschung zu Benachteiligungen und Diskriminierungen im Bildungssystem und am Arbeitsmarkt. In: Philipp, Simone / Meier, Isabela / Starl, Klaus / Kreimer, Margareta (eds.): *Auswirkungen von mehrfachen Diskriminierungen auf Berufsbiografien. Eine empirische Erhebung*. Wiesbaden: Springer VS, 27-42.

Sciarretta, Eliseo / Alimenti Lia (2021): Smart Speakers for Inclusion: How Can Intelligent Virtual Assistants Really Assist Everybody?. In: Kurosu M. (eds.): *Human-Computer Interaction. Theory, Methods and Tools. HCII 2021. Lecture Notes in Computer Science*, vol 12762. Springer.

Sprengel, Gabriele (2019): Der Schlüssel zur Verwirklichung der Inklusion ist Disability Mainstreaming. In: Sihn-Weber, Andrea (eds.): *CSR und Inklusion. Bessere Unternehmensperformance durch gelebte Teilhabe und Wirksamkeit*. Wiesbaden: Springer VS, 371-379.

Straßburger, Gaby / Rieger, Judith (2014): Warum Partizipation wichtig ist – Selbstverständnis und Auftrag sozialer Berufe. In: Straßburger, Gaby / Rieger, Judith (Hrsg.): *Partizipation kompakt. Für Studium, Lehre und Praxis sozialer Berufe*. Weinheim: Beltz Juventa, 42-50.

Thoden, Klaus / Stiller, Juliane / Bulatovic, Natasa / Meiners, Hanna-Lena / Boukhelif, Nadia (2017): User-Centered Design Practices in Digital Humanities – Experiences from DARIAH and CENDARI. *ABI Technik*, 37, 1, 2-11.

PVA - Pensionsversicherungsanstalt (2021): Berufliche und soziale Maßnahmen der Rehabilitation “fit2work”.

<https://www.pv.at/cdscontent/load?contentid=10008.577834&version=1581063862>, (23.07.2021).

Reischl, Christiane / Hatzl, Stefanie / Pechstädt, Katrin / Spitzer, Michaela / Paletta, Lucas / Ganster, Harald / Slamanig, Kerstin / Zülsdorff, Claudia / Url, Elisabeth / Pergler, Elisabeth / Gössl, Martin / Lüftenegger, Egon (2021): INCLUDE: Digitalisierung als Chance für Inklusion und Diversität in neuen Arbeitswelten. Public Report. In: [https://cdn.fh-joanneum.at/media/2019/02/INCLUDE\\_PublicReport.pdf](https://cdn.fh-joanneum.at/media/2019/02/INCLUDE_PublicReport.pdf) (23.07.2021)

Wahidin, Herman / Waycott, Jenny / Baker, Stefen (2018): The challenges in adopting assistive technologies in the workplace for people with visual impairments. In: *OzCHI '18 Proceedings of the 30th Australian Conference on Computer-Human Interaction*, December 2018, 432-442.

Winter, Dominique / Thomaschewski, Jörg / Schrepp Martin (2015): Faktoren der User Experience – Systematische Übersicht über produktrelevante UX-Qualitätsaspekte. In: Fischer, H. / Endmann A. / Krökel, M. (eds.): *Mensch und Computer 2015 – Usability Professionals*. Berlin: De Gruyter, 33-41.

Zeng, Hao / Zhao, Lijing / Zhao, Lixuan (2020): Inclusive Leadership and Taking-Charge Behavior: Roles of Psychological Safety and Thriving at Work. *Frontiers in Psychology*, 62, 1-11.