

Responsibilities for accessibility in companies - Who does it?

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ABSTRACT

With the *Barrierefreiheitsstärkungsgesetz* (BFSG) coming into force in Germany, companies now have to deal with new accessibility requirements as part of their corporate processes. There are many uncertainties and ambiguities as to who in the company should be responsible for adapting appropriate processes and making decisions. This paper provides a practical insight into a negotiation process between employees in different corporate roles. Data was collected through a group discussion and analyzed for relevant themes. The results show the focused business viewpoints of accessibility at different levels of the organization. These include effort-risk analysis, corporate or product strategy, and personal success metrics.

KEYWORDS

Accessibility, Human-Computer-Interaction, Disability Studies, Inclusion

1 INTRODUCTION

The European Accessibility Act (EAA) and its German implementation in the form of the *Barrierefreiheitsstärkungsgesetz* (BFSG) also oblige private companies to offer accessible products and services from 2025. Namely mentioned are, for example, e-commerce and banking services. Within the framework of a cooperation project between the university and company C1 in the area of research and teaching on accessibility, it was determined that (parts of) the product range, for example the company's own online shop and different payment and identification methods in the software products of company C1, are affected by the BFSG. Among other things, this triggered a discussion about the level at which the topic of accessibility is anchored in the company and for which responsibility is taken. In this article, we would like to provide an insight into the different perspectives of CEOs, CTOs, product owners and developers on the basis of this collected data and thus initiate the answer to the question "How is responsibility for accessibility assigned in the corporate context?"

2 CURRENT SITUATION

Accessibility not only addresses limitations or disabilities, but also creates benefits for all [1, 12, 14]. The success of an application does not only depend on the fulfilment of functional requirements, but also on how easy or difficult users experience the application [7].

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Moreover, accessibility can be used positively for marketing and/or CSR strategy [10]. Nevertheless, companies in particular think that the effort for accessibility is disproportionate [5] and often only address this issue due to legal regulations [16].

Isolated approaches for addressing accessibility in the design and testing process of applications exist [4, 9, 17]. However, there is currently no reference architecture for implementing an accessible software development process that addresses both the technical and organisational levels [8]. The influences and interlocks to be considered are numerous and concern, for example, different roles and levels in the company, different phases in the development process [7] as well as aspects such as time, money, lack of tools, lack of knowledge and experience or lack of support [1]. Especially the knowledge about the specific needs of people with impairments is often not available in companies [2]. In addition, there are currently no accessibility testing tools that test in a completely automated way [15].

From 2025, private companies in Germany will be obliged for the first time to offer accessible products and services through the implementation of the European Accessibility Act [3] in the form of the *Barrierefreiheitsstärkungsgesetz* (BFSG), otherwise they will face severe penalties.

3 METHODOLOGY AND PROCEDURE

An exchange with company C1, initiated by an employee (MA1) of the university, took place with the aim of a cooperation in the field of research and teaching regarding the consideration of tools to support accessible software development and an investigation of their practical use.

In addition to discussions of MA1 with the company, a meeting with all persons involved in the project including the management of company C1 as well as the first author and MA1 of the university took place in the form of a group discussion in order to coordinate a common roadmap. The meeting was organized by company C1 and consisted of the CEO of company C1 (CEO1), their Chief-Technical Officer (CTO1), 3 developers (DEV1-3), the Product Owner of the e-commerce store system (PO1) as well as the CEO of the subsidiary C2 (CEO2), the Head of UX-Design (UX1), the Head of online & mobile (HOOM1) and as representatives of the university the first author and MA1. The meeting took place via online videoconference, with some people participating on-site from a physical meeting room.

The data on which this paper is based consists of interview notes from the group discussion and a previous telephone conversation with CTO1 by the first author, as well as emails between the first author and MA1 of the university. Based on the data material, themes related to the research question were developed and agreed upon by the authors. This paper lists the core findings developed from the analysis of the data.

3.1 Group discussion

In contrast to focus groups, group discussions are open and preferably without moderation [11]. Experiences, practices and implicit everyday knowledge are explored [6]. The results are views and perspectives that the group members have already formed in reality [11].

4 RESULTS

In this chapter, the themes that emerged from the analysis of the data material are presented and briefly described.

4.1 Ignorance

When MA1 contacted C1, the topic of accessibility was consciously brought into the company for the first time. As a result, internal processes began to start. The legal department of company C1 determined that both its own e-commerce shop and (at least) one web application, which was discussed in the context of the cooperation, would fall under the BFSG and would therefore have to be accessible by the deadline of 28 June 2025. In the data of the analyzed group discussion, CEO1 asked how it is decided that a product or software is accessible. This question was answered by UX1 with reference to the WCAG and the BITV software test. The European standard EN 301 549, which is also interesting for the context and relevant for accessibility and which is based on the WCAG 2.1 guidelines, was only mentioned peripherally and not discussed further due to a lack of more important topics.

4.2 Function or accessibility

Among the product managers, the implementation of accessibility is seen very critically in relation to the already planned roadmap of the e-commerce application. With PO1's statement "I already have so much to do that I don't know when I should implement accessibility" and thus the trade-off between function and accessibility, the question of the necessary or expected additional effort was raised. From the ranks of company C1, it was assumed that the effort would double.

4.3 Strategic positioning of the products

From among the management, CEO2 specifically argued the benefit of accessibility by stating that he considers a good performance of the (respective) web application in general and comparative software tests to be strategically very valuable in order to have a proven advantage in comparison to other similar products. Some independent software tests already test for accessibility or have announced that they will do so.

4.4 Accessibility depends on own initiative and multipliers

A key driver in the implementation of accessibility is initiative at the operational level. On the one hand, many employees of the companies were present at this group discussion, on the other hand, UX1 in particular brought a lot of self-acquired knowledge into the discussion. For example, he was able to answer the question about the accessibility check of CEO1 as well as the very specific questions about the right of associations to take legal action, which

the BFSG entails and which enables people to complain about a lack of accessibility and to file a lawsuit, and he was able to speak on an equal footing with the expert information provided by the first author and MA1.

4.5 Automation is key

Quite quickly during the discussion, questions were asked about the completeness of the test tools and the degree of automation by the two CEOs and the CTO of company C1. After an explanation of examples such as contrast measurement, alt tags and linking of labels and input fields by MA1 and the first author, which refuted a (currently) complete automation, CEO1 was interested in "how many accessibility criteria such tools [author's note: tools for testing WCAG compliance] can automatically test".

4.6 Need for procedural changes

After talking through the automation aspects, CTO1 and CEO1 immediately understood that only accessibility testing tools are not the solution to the "accessibility problem" of the products under consideration. CTO1 needed to get to the point with the statement: "This means that besides the introduction of accessibility testing tools, procedural changes are also necessary".

4.7 Analogies to (UX) and GDPR

UX1's comments on the right to bring an action against an association and the associated potential penalties created an analogy to the GDPR, which had taken place in the company a few years earlier. The analogy was that parts of the GDPR were not fully implemented due to the enormous effort involved and because they did not serve the interests of the company C1, but only after a request from the competent supervisory authority. The decision of non-compliance with the relevant parts of the GDPR was made by the management based on a cost-benefit, coupled with a risk analysis. This incident was transferred to the topic of accessibility and thereupon CEO1 said that basically only the management could and was allowed to evaluate the business assessment of the (non-)implementation of accessibility.

4.8 Negotiations: who is responsible in the company?

In the group discussion, many different perspectives and aspects were discussed with the aim of deciding who is responsible for accessibility in the company in terms of (1) who implements accessibility, (2) how and by whom it is checked, and (3) who is responsible for the effort required for implementation (additional time and resources required, structural changes). Armed with all the information from the group discussion, CEO1, CEO2 and CTO1 discussed who should be responsible for accessibility in the company and to what extent additional effort would be justified. CEO1 would prefer to make the statement "Make it barrier-free". In the management constellation mentioned here, it was then considered what effects this announcement would have on the hierarchically subordinate groups of actors. Here, reference was again made to the statement made by PO1 of the effort and the associated decision as to whether function or accessibility should be implemented. CEO1 stated that a product owner who is measured by product success

in the form of the number of customers and sales would put the implementation of accessibility on the back burner with the given structures and key figures.

5 DISCUSSION

It can be seen that responsibility and motivation for accessibility in a commercially acting company depends on different drivers and perspectives. In the literature, there is often talk of too much effort [5], which has also been the concern of PO1, as the planned roadmaps of the e-commerce store would possibly be postponed. At the management level (CEO1), the effort is considered more strategically under the aspect of how great the risk of a potential penalty is in case of non-compliance with the legal regulations. The decision is based more on business factors and is related to the findings of Wegge and Zimmermann [16]. Furthermore, thoughts are expressed that consider the anchoring of accessibility at the level of product development to be challenging. Currently, product managers (e.g., product owners) are measured by success metrics such as sales and customers, but not by the degree of accessibility. Thus, a trade-off between functional enhancements and accessibility arises for this group as well. CEO2 recognized an added value for the product itself by looking at software benchmarks and rankings and thus marketing. Depending on how the test results are presented, they would have a direct impact on the company's CSR as well. Decision-making becomes interesting when the potential of accessibility is not only measured in terms of new customers, but also the impact on CSR and thus the marketing and image of the company. This could then in turn lead back to directly measurable variables such as the number of customers [13].

It is difficult to implement accessibility without changing processes (statement from CTO1) or organizational structures and metrics. Automated tests typically cover only 50% of accessibility criteria [15]. In the course of the group discussion, a lot of new knowledge was disseminated through the involvement of the first author and MA1, but also quite significantly by UX1, who turned out to be a knowledge carrier and multiplier within the product team of the web application. No other company member was able to demonstrate such a depth of knowledge in the group discussion, at least technically and legally, not regarding the specific needs of people with disabilities. The lack of interest in topics such as the legal basis, statements such as "Make it accessible" and the silent participation of a large part of those present could be interpreted to mean that the acquisition of knowledge that goes beyond the practical tasks in daily doing and does not directly pay into success metrics or is not currently acutely needed is not wanted at all, and can thus be explained by the lack of knowledge described by Bi et al. [1]. On the other hand, the participation of so many employees, even in silence, shows the dynamics and self-interest that the topic can arouse, which surprised even CEO1.

6 LIMITATIONS AND OUTLOOK

The collected and evaluated empirical data on which this paper is based must be viewed critically in terms of completeness and depth. Company C1 has only recently set its sights on the topic of accessibility as a result of MA1's request, thus initiating a process that is still in its very early stages and is only just developing.

Furthermore, the group discussion was open and not specifically convened to answer the research question, so the first author and MA1 did not specifically address the topic, nor did they have the opportunity to work towards answering the research question in a structured way (e.g., no opportunity to address aspects such as CSR). Nevertheless, the insights gained into the thought processes of company C1 are a valuable contribution to understanding the mechanisms at work, especially since the statements were made in an unbiased manner. The process is now only gaining momentum and requires further observation and targeted use of methods for a more in-depth recording and analysis of the motivations that are decisive for assigning the responsibility of accessibility. It should be noted that in this group discussion, no definitive decisions have yet been made regarding the (later) observance of accessibility in company C1.

REFERENCES

- [1] Tingting Bi, Xin Xia, David Lo, John Grundy, Thomas Zimmermann, and Denae Ford. 2022. Accessibility in Software Practice: A Practitioner's Perspective. *ACM Transactions on Software Engineering and Methodology* 31, 4 (July 2022), 66:1–66:26. <https://doi.org/10.1145/3503508>
- [2] Sven Bittenbinder, Aparecido Fabiano Pinatti de Carvalho, Claudia Müller, and Volker Wulf. 2021. Caring for Inclusivity - Accessibility as a Determinant Factor for Benefiting from Social Services both in Analogue and Digital Spaces. *SIEMEN:SOZIAL* 1-2|2021 (2021), 70–81.
- [3] (European Commission) EU. 2020. European Accessibility Act. <https://ec.europa.eu/social/main.jsp?catId=1202>
- [4] Kristin Fuglerud. 2014. *Inclusive design of ICT: The challenge of diversity*. Ph.D. Dissertation. <https://doi.org/10.13140/2.1.4471.5844>
- [5] Petra Gröber. 2017. *Barrierefreie Webseiten für Blinde?* Gesellschaft für Informatik, Bonn. <https://dl.gi.de/items/4fe1ccfa-c532-425e-ab1c-0763fd46013>
- [6] Nentwig-Gesemann, I. 2010. Das Gruppendiskussionsverfahren. In *Handbuch qualitative Methoden in der Sozialen Arbeit*, Karin Bock and Ingrid Miethe (Eds.). B. Budrich, Opladen, 259–268. Type: gedruckt.
- [7] Karla Ordoñez, José Hilera, and Samanta Cueva. 2022. Model-driven development of accessible software: a systematic literature review. *Universal Access in the Information Society* 21, 1 (March 2022), 295–324. <https://doi.org/10.1007/s10209-020-00751-6>
- [8] Débora Maria Barroso Paiva, André Pimenta Freire, and Renata Pontin de Matos Fortes. 2021. Accessibility and Software Engineering Processes: A Systematic Literature Review. *Journal of Systems and Software* 171 (Jan. 2021), 110819. <https://doi.org/10.1016/j.jss.2020.110819>
- [9] Hans Persson, Henrik Åhman, Alexander Arvei Yngling, and Jan Gulliksen. 2015. Universal design, inclusive design, accessible design, design for all: different concepts—one goal? On the concept of accessibility—historical, methodological and philosophical aspects. *Universal Access in the Information Society* 14, 4 (Nov. 2015), 505–526. <https://doi.org/10.1007/s10209-014-0358-z>
- [10] Cara Peters and David A. Bradbard. 2007. Web Accessibility: An Introduction and Implications for a Corporate Social Responsibility Marketing Strategy. *Journal of Internet Commerce* 6, 4 (Aug. 2007), 27–54. <https://doi.org/10.1080/15332860802086185> Publisher: Routledge_eprint: <https://doi.org/10.1080/15332860802086185>.
- [11] Aglaja Przyborski and Julia Riegler. 2010. Gruppendiskussion und Fokusgruppe. In *Handbuch Qualitative Forschung in der Psychologie*, Günter Mey and Katja Mruck (Eds.). VS Verlag für Sozialwissenschaften, Wiesbaden, 436–448. https://doi.org/10.1007/978-3-531-92052-8_31
- [12] Sven Schmutz, Andreas Sonderegger, and Juergen Sauer. 2017. Implementing Recommendations From Web Accessibility Guidelines: A Comparative Study of Nondisabled Users and Users With Visual Impairments. *Human Factors* 59, 6 (Sept. 2017), 956–972. <https://doi.org/10.1177/0018720817708397> Publisher: SAGE Publications Inc.
- [13] Rosemarie Stibbe. 2019. CSR-Erfolgssteuerung – Unternehmensperspektive. In *CSR-Erfolgssteuerung: Den Reformprozess verstehen, Reporting und Risikomanagement effizient gestalten*, Rosemarie Stibbe (Ed.). Springer Fachmedien, Wiesbaden, 43–75. https://doi.org/10.1007/978-3-658-21329-9_3
- [14] Viktoria Stray, Aleksander Bai, Nikolai Sverdrup, and Heidi Mork. 2019. Empowering Agile Project Members with Accessibility Testing Tools: A Case Study. 86–101. https://doi.org/10.1007/978-3-030-19034-7_6
- [15] M. Tollefsen and T. Ausland. 2017. A practitioner's approach to using WCAG evaluation tools. In *2017 6th International Conference on Information and Communication Technology and Accessibility (ICTA)*. 1–5. <https://doi.org/10.1109/ICTA>

2017.8336047 ISSN: 2379-4402.

- [16] Klaus Peter Wegge and Dirk Zimmermann. 2007. Accessibility, Usability, Safety, Ergonomics: Concepts, Models, and Differences. In *Universal Access in Human Computer Interaction. Coping with Diversity (Lecture Notes in Computer Science)*, Constantine Stephanidis (Ed.). Springer, Berlin, Heidelberg, 294–301. https://doi.org/10.1007/978-3-540-73279-2_33
- [17] Gottfried Zimmermann and Gregg Vanderheiden. 2008. Accessible design and testing in the application development process: considerations for an integrated approach. *Universal Access in the Information Society* 7, 1 (April 2008), 117–128. <https://doi.org/10.1007/s10209-007-0108-6>

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