

Digital Accessibility in Multinational Enterprises: a Meta Study

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Abstract—Ever since the ratification of Directive 2016/2102 (Web Accessibility Directive) and EU Directive 2019/882 (European Accessibility Act), digital accessibility has been gaining in importance for public administration and business within the European Union. Furthermore, the role of companies has changed during the last decades and the concept of corporate social responsibility has become increasingly relevant for multinational enterprises. As one aspect of Corporate Social Responsibility, digital accessibility can bring a lot of advantages, for example by driving innovation or by enhancing a company's brand. Therefore, even companies that do not have to meet legal requirements should act with digital accessibility in mind as one part of their Corporate Social Responsibility Strategy. In the current literature and legal regulations, digital accessibility is mostly described as a technical issue, while organizational, structural aspects and managerial tasks within the implementation of digital accessibility are ignored. By reviewing current literature, this meta study shows the relevance of digital accessibility for multinational companies, explains why the implementation of digital accessibility cannot only be considered from a technical point of view and discusses initial approaches to examine the integration of digital accessibility into company-wide processes.

Keywords—Strategic Management; Digital Accessibility by Design; Corporate Social Responsibility; Society 5.0.

I. INTRODUCTION

To examine the status quo of digital accessibility in multinational enterprises, 77 papers have been analysed, which are linked with the keywords "digital accessibility", "strategy" and "enterprises", mostly focusing on papers and books from the years 2018 to 2023. The analysis included the electronic databases such as Web of science, SCOPUS, JSTOR, SSRN and b On. After a first review, 19 papers were selected as relevant for this article. Digital accessibility refers to the extent to which digital products, resources, and services (hardware, software, websites) and digital content are available for people with disabilities [1] [2]. According to the World Wide Web Consortium (W3C), software, websites and mobile applications must be "POUR" (perceivable, operable, understandable, and robust) to be accessible [3] [4].

The rest of this paper is organized as follows. Section II describes why it is important for companies to implement digital accessibility into their company-wide processes. In Section III, it lays forth why digital accessibility is not only a technical issue. In Section IV, this research also discusses possible approaches to examine how digital accessibility can be integrated into company-wide processes of multinational enterprises.

The research process required the following research hypotheses:

H1: Companies need to integrate digital accessibility into their processes to meet their social, economic and legal responsibilities.

H2: The integration of digital accessibility into administrative and management processes in companies has not yet been sufficiently researched.

II. DIGITAL ACCESSIBILITY AS A POLITICAL, LEGAL, SOCIAL AND ECONOMIC REQUIREMENT FOR MULTINATIONAL ENTERPRISES

Ever since the ratification of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) [5], digital accessibility has been gaining in importance for public administration, businesses and society. The equal access to information and communications and electronic services is required in article 9 of the Convention [5]. After ratifying, the European Union performs a lot of activities regarding digital accessibility [6]. Directive (EU) 2016/2102 of the European Parliament and of the Council obliges all member states of the European Union, to incorporate the accessibility of the websites and mobile applications of their public sector bodies within their national legal systems. These new legislative changes have created a growing market for accessible digital products and services for public bodies, which may be an opportunity or a risk for market participants, depending on their ability to design their products and services accessible [7]. Due to the entry into force of EU Directive 2019/882 (European Accessibility Act) and the resulting national legislative changes, digital products that are seen as important by the European Union, have to be designed in a way that they are usable by all people [8].

Therefore, companies that manufacture such products, will also have to face increasing accessibility requirements within the next years. The European Disability Forum also regards companies and market surveillance authorities as important key players for enforcement of the European Accessibility Act [9]. However not only companies that are obliged by law should act with accessibility in mind: the role of business enterprises has changed during the last decades and the concept of Corporate Social Responsibility has become increasingly important [10]. While in the past, the goal of corporations has been solely profit maximization, nowadays companies are expected to have a positive impact on society and to consider social and environmental impacts in their business decisions [11]. Furthermore, by acting with Corporate Social Responsibility in mind, companies can benefit on many different areas [12]. Recognizing this value, a Corporate Social Responsibility strategy is implemented in many large and medium-sized companies [13]. As one aspect of Corporate Social Responsibility, digital accessibility can bring a lot of advantages, for example by driving innovation or by enhancing company's brand [14].

III. DIGITAL ACCESSIBILITY AS A COMPANY-WIDE PROCESS

Many sources discuss the political, social, and economic importance of digital accessibility and the problems in achieving the accessibility goals [2] [15]. A number of guidelines for developers and disability advocates is set out [1] [4] [16]. While the technical requirements for digital accessibility of products have been extensively researched [4] [17], only few guidelines for companies exist on how digital accessibility can be integrated into a company's processes at the organizational level [10]. As the integration of digital accessibility into a company affects almost all parts of the organization, managers play an important role in adapting the processes and building an accessibility culture [18] [19] [20] [21].

These literature-based findings demonstrate a research gap on how companies may draw on political, organisational, and technical framework conditions in designing accessible digital products and services.

IV. HOW CAN THE INTEGRATION OF DIGITAL ACCESSIBILITY INTO MULTINATIONAL ENTERPRISES' PROCESSES BE EXAMINED?

The following paragraph provides some possible solutions to approach the topic. First, it describes some existing models, which may be adapted to investigate the maturity of digital accessibility in multinational enterprises. Next, it introduces useful concepts that may be helpful within this research project.

A. Existing approaches

The conducted literature review found two maturity models, which can help organisations to assess their digital accessibility programs [22] [23]. Both models assess the digital accessibility along different dimensions (e.g., communication, employees training), where accessibility can

improve conformance with accessibility regulations. The models suggest measures, which can increase the accessibility performance. Maturity models are helpful in determining the status quo of a problem situation, but leave unanswered the question of how the capabilities needed to be solved can be identified and successfully applied [24]. In the case of digital accessibility, the existing models could be added with guidelines about how to identify the relevant knowledge, assimilate it, and apply it within the organization [25] [26].

Thus, depending on the branch and organization, the adoption of digital accessibility is influenced by different political, legal, social, and economic factors that may prevent or facilitate the implementation [1] [2]. For the successful integration of digital accessibility into a company's processes, these factors need to be identified and appropriately addressed.

B. Possibilities for further research

To close the gap shown above, the authors suggest the following research direction as one possible approach:

1) *Soft Systems Methodology as methodological umbrella*

Further research might be conducted under the umbrella of Soft Systems Methodology (SSM). The SSM provides structured guidelines to address social interventions to bring in change to the real-world affairs in a holistic, focused, systematic, and controlled approach. It also offers ways of examining a problem-situation, as both a 'social system' and a 'political system' [27] that might be useful to accommodate technological action. It emphasises explanation through learning rather than predictive testing by positioning the problem-situation within both the structural and cultural organizational contexts pursuing hermeneutical and phenomenological views i.e., a subjectivist perspective.

As a learning methodology, SSM aims at finding relevant views and choices to the situation. In this investigation, the conceptual model will be used as a source of debate about potential change providing the questions to ask concerning the existing situation [27].

2) *Identifying capabilities by using Absorptive Capacity*

To examine, which capabilities companies need to integrate digital accessibility, Absorptive Capacity might be helpful. Cohen and Levinthal [25] define absorptive capacity as the ability of the organization to recognize the value of external information, assimilate it, and apply it [25]. Moreover, Eisenhardt and Martin [28] consider that new competencies and abilities might originate on knowledge created, extended [28], and modified by absorptive capacity (ACAP) as a dynamic capability [26].

These researchers also suggest the division of ACAP into Potential Absorptive Capacity (PACAP) and Realised Absorptive Capacity (RACAP). Furthermore, social integration mechanisms overcome the barriers between PACAP and RACAP [26].

3) *Using Corporate Social Responsibility for grouping social aspects*

To examine the social dimensions of the integration of digital accessibility into the administrative processes, it may

be helpful to examine, how digital accessibility could be integrated into company’s Corporate Social Responsibility Strategy. Even there is no generally accepted definition of CSR [29] [30] [31] [32], many scholars deal with the CSR pyramid, shown in Figure 1, first published by Archie Carroll. Carroll’s four-part definition of CSR was originally given as follows: “Corporate social responsibility encompasses the economic, legal, ethical, and discretionary (philanthropic) expectations that society has of organizations at a given point in time” [30].

Regarding digital accessibility, the four components of the pyramid may be relevant as follows:

- The economic responsibility of a firm is about producing goods and services that society needs and making profit on them, taking into account all other layers of the pyramid. In the case of digital accessibility, companies might adapt their production processes to meet accessibility requirements, being profitable at the same time.
- Legal responsibility refers to the company’s obligation to meet legal requirements and regulations. Regarding digital accessibility, companies are obliged to meet EU regulations and the resulting national regulations to not risk fines, sanctions, or business restrictions.
- Ethical responsibility: Nowadays society expects companies to act in an ethical manner. For example, building a digital accessibility and inclusive culture may enhance a company’s branch and improve the company’s image.
- Philanthropic responsibility concerns social activities beyond the expectation of society. Firms may support superior digital accessibility that goes further than legal requirements and the expectations of society.

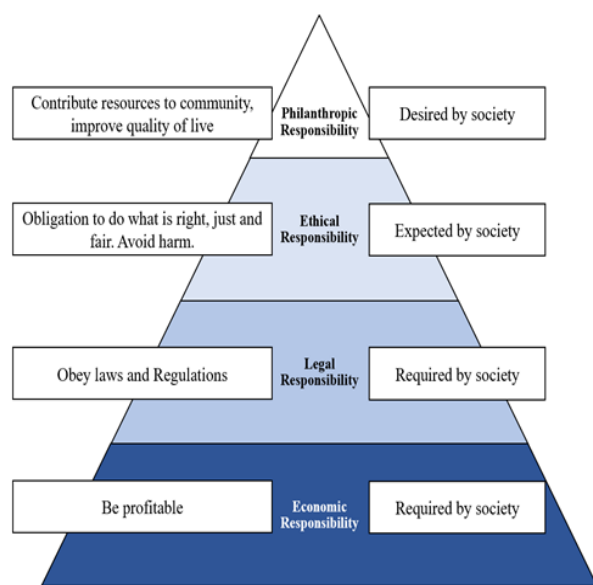


Figure 1. Carroll’s pyramid of CSR - four-part definitional framework for CSR. Adapted from [30].

4) Society 5.0 as a model for an inclusive future

In addition, the United Nations (UN) adopted the 2030 Agenda for Sustainable Development which consider 17 Sustainable Development Goals (SDGs) [33]. These should guide the effort of all nations working together towards a sustainable world targeting both economic development and solutions to societal issues by responding to the challenges with inclusiveness, i.e., “leaving no one behind” [34] [35]. As shown by Maliszewska-Nienartowicz [15], accessibility is also strongly linked with the goals formulated in the UN 2030 Agenda for Sustainable Development.

Society 5.0 is aligned with the principles of SDGs of the UN by offering a new growth model with a view of “solving social issues” as well as “creating a better future” [36]. The “Investment for the Future Strategy 2017” represents a commitment of the Japanese government aiming at building a society in which all citizens, including people with disabilities can lead a fulfilling life and demonstrate their abilities to the full by the introduction of digital technologies through Society 5.0 [36]. These moves both merge with the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) [5], which marks the kick from digital accessibility. Since then, it has been gaining importance for public administration.

5) Stakeholders as fundamental players for any successful digital accessibility program

Since the company-wide implementation of digital accessibility is an overarching process, it is influenced by several stakeholders with many different roles and objectives [2] [37]. Therefore, stakeholder analysis is essential for further research. In a wide sense, stakeholders might be defined as “groups who can affect the achievement of the firm’s objectives” [37]. As one important group of stakeholders, the shareholders perspective is seen as particularly relevant for examining the topic. Shareholders theory assumes that managers are expected to use financial and human resources only in a way that is authorized by shareholders [38].

For developing a digital accessibility culture, it is therefore important to convince the shareholders to offer enough budget for the digital accessibility program and to support digital accessibility activities [39], to fulfill the company’s economic responsibility (see Carroll’s pyramid of CSR [30]).

V. DISCUSSION AND CONCLUSIONS

As shown in this article, the ratification of the United Nations Convention on the Rights of Persons with Disabilities has led to activities worldwide to increase (digital) accessibility. Within the European Union, digital accessibility has become an important element within the sustainability development strategy and has led to legislative changes that oblige public bodies and many companies to comply with digital accessibility criteria. Furthermore, there is a change of mind in society about topics, such as inclusion and accessibility; and the roles of companies has changed in

recent years accordingly. Concepts such as Society 5.0 and Corporate Social Responsibility have thus become increasingly important. While technical criteria for creating accessibility are well researched and partly regulated by law, this article shows a research gap regarding the integration of digital accessibility into the management practices and processes of companies. To close this gap, the authors propose an approach under the guidance of Soft Systems Methodology. Absorptive Capacity could be used to identify and apply the knowledge required, to implement digital accessibility within the companies' processes. Existing accessibility models could be adapted and supplemented with perspectives from different target groups and concepts, such as Corporate Social Responsibility and Society 5.0.

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