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## **Self-Regulation and the legitimacy of voluntary procedural standards**

### **Introduction**

The United Nations (UN) Convention on the Rights of Persons with Disabilities (CRPD) obligates States Parties to remove the “barriers of prejudice” posed by inaccessible information and communications technologies (ICT) (UN, 2006; United Nations, 2006). National governments have supported and responded to the obligations enshrined in the CRPD by enacting regulations to promote the social inclusion of persons with disabilities. Contiguously, standards organizations have developed web accessibility standards that specify rules for designing web content for use by persons with disabilities (BSI, 2010; W3C, 2008). This article examines how standards emerge from national regulations, and asks, “To what extent can standardization support web accessibility regulations?”

Under the CRPD, States Parties have an obligation to “adopt all appropriate legislative, administrative and other measures” including to “develop, promulgate and monitor the implementation of minimum standards and guidelines for the accessibility of ... services ... provided to the public” (United Nations, 2006). However despite efforts to regulate web accessibility, the web remains inaccessible for persons with disabilities (Blanck, 2014; Easton, 2012; Giannoumis, 2014; Kuzma, 2010; La Porte, Demchak, & de Jong, 2002; Ritchie & Blanck, 2003). Accessible web content refers to textual, non-textual, and interactive information usable by persons with disabilities. However, web accessibility exists on a continuum of usability related outcomes and does not constitute a simple division between accessible and inaccessible web content. Usability related outcomes vary based on the interaction

between individual and environmental demands. Individual demands typically involve physical, sensory or cognitive impairments. Thus, the differences between impairment types affect the character of web accessibility. While web accessibility for persons with cognitive disabilities aims to enhance memory, comprehension, attention or problem solving, web accessibility for persons with sensory disabilities aims to enhance the visual or auditory format of the content. Web accessibility for persons with physical disabilities aims to enhance the operability of web content. Environmental demands typically include the physical setting where a person accesses web content, the computer hardware and software, and the input devices used to access web content. Web accessibility focuses primarily on remediating environmental demands by customizing web content to enable a person to access web content easily, on multiple computer platforms and using a variety of input devices including assistive technologies. Assistive technology refers to devices that enhance or provide alternative methods for interacting with technology.

Advocates have used antidiscrimination regulations to enforce the accessible design of web content (Blanck, 2014; Easton, 2012). Access to web content allows persons with disabilities to utilize the informational and communications capacity of the web on an equal basis with others. Thus, web accessibility, relates to the democratization of technology, a process that refers to the increasing accessibility and usability of products and services. As an integral part of public and private sector service provision, persons with disabilities depend on the accessibility of web content to participate in political and public life. Thus, web accessibility provides a useful mechanism for realizing the right to health, education, employment and cultural life, recreation and sport. In addition, accessible social media provides an opportunity for people with disabilities to produce user-generated content (e.g., writing, art and music) and thus, provides an opportunity to realize freedom of expression. Accessible social media refers to web content that enables persons with disabilities to create and share information and interact with others.

However, a right to the web for persons with disabilities has conflicted with efforts to ensure property rights on the web. Private enterprises continue to commercialize the web, not simply by selling products and services but through online advertising, and collecting and selling user data (Hoffman, Novak, & Chatterjee, 1995; Weis, 1992). These commercialization trends have resulted in conflicting ideas regarding content ownership, especially in social media. While content publishers have traditionally retained a monopoly, through copyright law, on the distribution of media content, the web has opened up new channels for the legal and illegal re-creation and distribution of copyrighted content. Thus, the web represents a useful mechanism for re-creating and distributing formerly inaccessible copyrighted content in new and more accessible formats. However, the fragmentation of international copyright laws have limited the legal reproduction and distribution of accessible copyrighted content. In response, the World Intellectual Property Organization has promoted an international treaty to facilitate access to published works, including web content, by visually impaired persons and persons with print disabilities (Ferri & Giannoumis, 2014; Rekas, 2013). While, not the focus of this article, the interaction of copyright and accessibility provide a useful framework for understanding the broader implications of a right to the web for persons with disabilities.

The United Kingdom (UK) presents a useful case to examine as representatives from advocacy organizations, private enterprises, and government agencies collaborated to introduce standards that effectively respond to and clarify web accessibility regulations. The Disability Discrimination Act 1995 (DDA) forms the legislative basis of web accessibility regulation and aims to promote the equal treatment of persons with disabilities by requiring reasonable adjustment. Equal treatment refers to a political principle that prohibits discrimination based on disability. As part of the equal treatment principle, reasonable adjustment provisions obligate private enterprises to “change practice, policy or procedure so that it no longer ... makes it impossible or unreasonably difficult for disabled persons to make use of a service” (“Equality Act 2010,” 2010). The UK government authorized the Disability Rights

Commission to introduce regulations as a means of clarifying reasonable adjustment obligations. However, rather than clarifying the obligation by referring to previously established international standards, the Disability Rights Commission chose to develop national standards to support web accessibility regulations. Despite ensuring broad representation, consensus, and the benefits of standardization, policy actors have not yet widely adopted the standard in law or practice. Although standardization efforts have not yet substantially improved web accessibility, the UK's approach to web accessibility provides a useful case for informing models of regulation and standardization (Easton, 2012).

First, to understand the interaction between web accessibility regulations and standards as governance mechanisms, this article establishes an analytical framework for regulation and standardization. Second, the article follows with a description of how data from policy analyses and semi-structured interviews empirically support the examination of regulation and standardization. Third, the article then presents the results of the data collection by describing the UK's approach to regulating web accessibility, developing web accessibility standards, and institutionalizing the legitimacy of web accessibility standards. Fourth, the article then discusses how the UK's approach to web accessibility regulations has yet to provide a substantial framework for the adoption of web accessibility standards. Fifth, the article concludes by summarizing the results and making recommendations for future research and policy development.

## **Framework for analyzing regulation and standardization**

This section provides a theoretical overview of social regulation, then identifies where research on social regulation coincides with research on standardization, and finally situates the analysis of this article within the research on social regulation and standardization.

Social regulations aim to influence the market in order to achieve a social objective and include legislative and persuasive policies (Bemelmans-Videc, Rist, & Vedung, 1998; Levi-Faur, 2011). However, legislation that mandates compliance typically encounters enforcement challenges. To enforce legislation, service providers must provide accurate compliance information to regulators (Potoski & Prakash, 2011). Consequently, for service providers, strategically demonstrating compliance with legislative requirements reduces the risk of penalties for noncompliance (Easton, 2012). Alternatively, regulators use compliance as a criterion for demonstrating the realization of agency objectives and thus, the value of the agency. Therefore, the benefits of risk reduction and value enhancement motivate service providers and regulators to demonstrate compliance. However, the motivation to demonstrate compliance also coexists with incentives for service providers to avoid compliance, due to cost savings and for regulators to avoid absolute enforcement, due to the risk of deceptive compliance. Thus, the conflicting motivations and incentives of regulators and service providers present a regulatory dilemma.

This dilemma has led to regulatory failure. Regulatory failure refers to unsuccessful attempts to achieve public interest goals through regulatory rulemaking. Previous research demonstrates that regulatory failures have generated self-regulation reforms (Short, 2013). Self-regulation refers to voluntary commitments to comply with or exceed legal obligations (Töller, 2011). However, self-regulation does not constitute a universal solution to the dilemma of regulatory enforcement. As previous research has demonstrated, self-regulation requires a robust regulatory regime to produce a social policy outcome (Short, 2013). Robust regulatory regimes refer to adequately resourced regulatory agencies, with the authority to monitor and sanction noncompliance. However, previous research stipulates that robust regulatory regimes maintain enforcement authority while refraining from pursuing enforcement (Short, 2013). In robust regulatory regimes, policy actors typically agree on regulatory objectives, while disagreeing on the means to achieve the objectives.

Policy actors typically have to choose between adopting, what previous research has defined as, mandatory, “hard”, or voluntary, “soft” policies (Kenneth Abbott & Snidal, 2000; Reus-Smit, 2004). Without denying the functional similarities between hard and soft policies and mandatory, regulative standards, and voluntary, coordinative standards, this article focuses on the standardization process and adopts the latter distinction (Iversen, Vedel, & Werle, 2004; Werle, 2002; Werle & Iversen, 2006). The distinction between regulative and coordinative standards focuses on the economic costs and benefits of standardization. However, governments may use regulative standards to support social regulations and the realization of human rights, which may or may not have a quantifiable cost or benefit. This article adopts a view of standardization that considers the social impact of standards within the context of human rights.

Policy actors develop regulative standards in order to achieve a social objective. Regulative standards support social regulations by providing demonstrable compliance criteria. The legal obligation of regulative standards comes from the use of the standard in law, which influences whether policy actors adopt the standard. Alternatively, policy actors use coordinative standards to achieve interoperability or compatibility. Coordinative standards aim to expand the market for goods and services and achieve greater economic efficiency. Therefore, the use of coordinative standards in practice contributes to establishing a convention, which influences whether policy actors adopt the standard. While analytically, the characteristics of regulative and coordinative standards remain distinct, in reality, standards exhibit a combination of regulative and coordinative characteristics.

The contrasting aims between regulative and coordinative standards relate to differing obligations. Previous research refers to obligations as legally binding requirements (Kenneth Abbott & Snidal, 2000; Trubek, Cottrell, & Nance, 2005). However, as obligations to adopt standards may refer to legal obligations or practical conventions, this article adapts the definition of obligation to refer to the

legal or practical use of a standard. Therefore, the obligation to adopt regulative standards emerges when regulatory agencies or the judiciary refers to the standard (Hallström, 2004). Thus, the use of the standard in law defines the obligations of regulative standards. Alternatively, the obligation to adopt coordinative standards emerges when the market adopts a standard in practice as a matter of convention. Thus, the use of the standard in practice defines the obligation to adopt coordinative standards. The difference between a standard's use in law or practice alludes to the standard's normative character. A standard's normative character refers to whether a statutory policy obligates compliance in law, as in regulative standards or convention promotes the adoption of a standard in practice, as in coordinative standards (Werle, 2002).

Nonetheless, standards also differ based on precision. Precision refers to the specificity of details that limit interpretation (Kenneth Abbott & Snidal, 2000). As an independent feature of standardization, precision varies within approaches to standardization as prescriptive standards include more precise specifications than procedural standards. Prescriptive standards refer to technical specifications while procedural standards refer to process criteria (BSI, 2008b; Gilad, 2011). Therefore, the development of prescriptive or procedural standards may emerge as regulative or coordinative standards depending on the obligation. Thus, the differentiation between regulative and coordinative standards and prescriptive and procedural standards exist as mutually exclusive dichotomies.

Policy actors typically delegate the development of standards to standards organizations. Delegation refers to the authority conferred by policy actors to independently create or interpret policies (Kenneth Abbott & Snidal, 2000). Therefore, delegation typically involves the development and publication of standards through public or private sector standards organizations (Brunsson, 2000). Public sector standards organizations, initiated through governmental recognition, typically produce regulative standards applicable within a government's jurisdiction. Alternatively, private standards

organizations, initiated through industry consortia, typically develop coordinative standards for particular industries or markets. Consequently, standards organizations operate with varying degrees of political and commercial independence. Therefore, initiating standardization in a standards organization allows policy actors to determine whether the standard engages the interests of the public or private sectors (Austin & Milner, 2001; Spruyt, 2001).

The democratic legitimacy of a standard provides an institutional basis for policy actors to adopt a standard in law or in practice (Hardin, 2007). Democratic legitimacy refers to the popular acceptance of a standard's authority. Previous research defines the legitimacy of a standard based on the input and output of the standardization process (Werle & Iversen, 2006). Input legitimacy refers to the representation of different interests during the standardization process. As standardization becomes more inclusive, integrating expertise from a greater variety and number of interests, consensus becomes more difficult to achieve and requires more resource investment. As an alternative to consensus, output legitimacy focuses on the beneficial qualities of the standard. As the quality of the standard increases, standardization results in non-market and non-technical benefits. Therefore, by adopting procedures that balance representation and consensus with the quality of the standard, a standards organization can institutionalize legitimacy. For regulative standards, legitimacy influences whether regulators or judges consider the standard as consistent with existing legislation or judicial rulings. However, for coordinative standards, legitimacy influences whether market actors choose to adopt a standard. Consequently, standards organizations attempt to integrate mechanisms for achieving input and output legitimacy to meet the demands of public and private sector actors.

In essence, the institutional norms, values and procedures incorporated in standardization processes and the knowledge and expectations of policy actors determines the use of a standard in practice or law (Brunsson & Jacobsson, 2000; Hoel & Hollins, 2008; C. Lane, 1997). Additionally, standards exhibit multiple dimensions (i.e., regulative and coordinative, procedural and prescriptive, and



public and private) and interact with social regulations (Kenneth Abbott & Snidal, 2001; Giannoumis, 2014; Spruyt, 2001; Werle, 2001, 2002). However, previous research has neither empirically demonstrated the interactions of the policy actors and social institutions of standardization nor provided a useful framework for examining the relationship between standardization processes and social regulation. Thus, this article seeks to demonstrate the interaction of policy actors and the institutional norms, values and procedures of standardization by investigating the social regulation of web accessibility.

Given the obligations of the CRPD and the enforcement dilemma confronting regulators in the UK, this article examines the extent that standardization can support web accessibility regulations. Despite a regulative framework that established a legal obligation for web accessibility, the UK adopted a self-regulatory approach to developing a web accessibility procedural standard, BS 8878:2010. While BS 8878 predominantly resembles a regulative standard, the voluntary normative character of BS 8878 more closely resembles a coordinative standard. The juxtaposition of regulative and coordinative characteristics provides a useful case for examining the analytic distinction between the use of a standard in law and in practice (Iversen et al., 2004; Werle & Iversen, 2006). Therefore, this article presents an in-depth case study of BS 8878, a voluntary procedural standard. Additionally, this article provides new evidence on the analytic difference between regulative and coordinative standards. Thus, to explore the social institutions of standardization comprehensively, I adopt a qualitative approach to examining the relationship between policy actors, the institutional features of standardization, and the legitimacy of BS 8878. To thoroughly detail and present the themes of these relationships, this article traces the development and implementation of BS 8878 using two data sources, a document analysis and semi-structured interviews.

## Methods

First, this article uses a document analysis of publicly available primary source statutory and non-statutory policies acquired on the web and through the Internet Archive. The document analysis assesses the explicit norms, values and procedures of the UK government, the British Standards Institution (BSI), and other policy actors (Internet Archive, 2013). The document analysis included fundamental pieces of disability rights legislation in the UK and associated national and supranational regulations. I identified relevant policies through web searches, references within other policies, and the semi-structured interviews, and I subsequently retrieved the policies from the websites of the UK government, the British Standards Institution, and other policy actors. However, policies do not detail the experiences of policy actors in standardization processes.

Second, to assess the relationship between the subjective experiences of policy actors and social institutions, this article uses the results of eleven semi-structured interviews conducted in the UK. I purposively identified and recruited participants based on the abundance and complexity of information each policy actor could provide regarding the regulation and standardization of web accessibility. As policy actors involved in web accessibility constitute a discrete group of subject matter experts, I used the social networking website LinkedIn to recruit interview participants. The participants I recruited then assisted in recruiting other participants. Since this article focuses on the social barriers that contribute to disability, the perspectives of persons with disabilities as policy actors provide a useful lived experience of web accessibility. While not routinely requested to provide information on disability, five participants self-identified as blind or partially sighted.

To preserve the anonymity of the participants, this article uses a two-digit identification (ID) number for each participant. Participants represented varying interests involved in web accessibility regulation, including private enterprises (ID 01), advocacy organizations (ID 02), civil society

organizations (ID 03), quasi-public agencies (ID 04), standards organizations (ID 05), regulatory agencies (ID 06) and public agencies (ID 07). As the article aims to assess the experiences of the participants, semi-structured interviews provided the opportunity to explore questions from an interview guide while pursuing varying lines of inquiry. The interview guide included questions related to, (1) the barriers and incentives to web accessibility; (2) the role of standards in web accessibility; (3) the resources needed to achieve broader and higher levels of web accessibility; and (4) the lessons learned from the UK experience.

The policy analyses and interviews provide the empirical basis for analyzing regulation and standardization in the UK and the factors associated with the use of web accessibility standards. The analysis incorporates data from the policy analysis and interviews. The next section provides an overview of web accessibility regulation and standardization in the UK, the analysis continues by focusing on regulating web accessibility, and then developing web accessibility standards, and finally institutionalizing the legitimacy of web accessibility standards.

## **Web accessibility regulation and standardization in the UK**

The enactment of the DDA attempted to promote the social inclusion of persons with disabilities by strategically influencing market actors. However, the broad language of the DDA challenged the implementation and interpretation of the law. The DDA obligated service providers to make reasonable adjustments by removing barriers that make “it impossible or unreasonably difficult for disabled persons to make use of a service” including barriers in the “access to and use of means of communication” and “information services” (“Disability Discrimination Act,” 1995). To support the implementation of the DDA, the UK government authorized the Disability Rights Commission (DRC) to issue Codes of Practice as an independent disability antidiscrimination regulatory agency. Codes of Practice constitute statutory policies that regulate and detail specific areas of the law.

The UK's approach to disability antidiscrimination began to change as financial constraints stimulated regulatory reforms (Giannoumis, 2014). The UK government promoted regulatory reform efforts by incentivizing a "culture of efficiency", which attempted to reduce or maintain public sector costs while maintaining or improving service provision (Gershon, 2004; Hampton, 2005). In 2006, regulatory reform efforts led to the formation of the Equality and Human Rights Commission, which replaced the Disability Rights Commission and other antidiscrimination regulatory agencies. In 2010, to further promote public sector reform efforts, the UK government adopted the Equality Act 2010, which combined the DDA with other antidiscrimination legislation to "reform and harmonise equality law" ("Equality Act 2010," 2010). In a further effort to limit the regulatory role of the public sector, the UK government agreed, in 2011, to proceed with legislative efforts to reduce the authority and capacity of the Equality and Human Rights Commission and clarify "the EHRC's remit and improve its ... value for money" (Government Equalities Office, 2012).

Contiguous with the UK's regulatory reform efforts, the UK government adopted a self-regulatory approach to the use of standards in support of social regulations (CBI, 2002; NSSF, 2003). A coalition of policy actors established the National Standardization Strategic Framework (NSSF) to promote a "lighter touch" to the use of regulative standards in business, government and society (NSSF, 2003). The NSSF supported the idea that standards should support, not replace, regulation in an effort to identify service providers at greatest risk for noncompliance (BSI, 2008a, 2008b). However, in establishing the self-regulatory role of standards, the NSSF also supported the idea that regulators should consider standards voluntary except where "the protection of health and safety" justifies a mandatory standard (Department for Innovation Universities and Skills, 2009). The voluntary approach to standardization, promoted by the NSSF, avoids requiring pre-emptive compliance efforts and relies on the judiciary to enforce regulatory compliance after violations emerge.

However, the voluntary approach to standardization originated with the founding of the British Standards Institution and involved representation by “all interested parties” and a “recognized need for self-regulation” (Attwood, 1955; BSI, 2001; Schepel, 2005). The British Standards Institution operates as an independent enterprise and publishes standards as commercial products (BSI, 1989). The British Standards Institution defines standardization as a “framework for achieving economies, efficiencies and interoperability” with an objective to “support public policy” (BSI, 2011). However, the British Standards Institution frames the standardization process as an alternative to regulation, with no inherent legal obligation for compliance. Consequently, the British Standards Institution considers the authority and reliability of a standard to derive from the standard’s usefulness to different policy actors (e.g., private enterprises or regulators) (BSI, 2011). However, few standards maintain governmental support (C. Lane, 1997).

The British Standards Institution engages in standardization in response to public need, and expects standards to meet public interest objectives while producing social or economic benefits. The British Standards Institution expects a standard to offer a competitive alternative to standards developed through other means (e.g., from industry consortia) and to maintain impartiality and consistency with regulatory and judicial values. The UK government has condoned and encouraged the institutional combination of regulative and coordinative characteristics in standardization to simultaneously promote social and economic objectives (NSSF, 2003).

Standardization at the British Standards Institution typically consists of the development of either Publicly Available Specifications or British Standards. A financial sponsor initiates the development of Publicly Available Specifications, and the British Standards Institution facilitates the process as a contractor to the sponsor. The British Standards Institution encourages a consensus-based approach as part of the procedural rules for developing a Publicly Available Specification. Alternatively,

British Standards begin with a proposal that the British Standards Institution or another policy actor may initiate unsolicited or as part of the review of a Publicly Available Specification. The British Standards Institution decentralizes the development of British Standards to Technical Committees. Technical Committees develop standards by consensus, which refers to “general agreement, characterized by the absence of sustained opposition ... by any important part of the concerned interests ... [taking] into account the views of all parties concerned” (BSI, 2011). While consensus requires a process “to reconcile any conflicting arguments”, consensus does not require a unanimous result (BSI, 2011). However, consensus procedures require that unresolved disputes result in ending standardization efforts or recommendations for the Technical Committee to achieve support and optimal use of the standard (Schepel, 2005).

The British Standards Institution requires Technical Committees to involve members representative of “the respective interests of users, manufacturers, Government Departments and other persons” (BSI, 1989). However, as members do not receive compensation for participating in standardization, resource constraints limit the representativeness of policy actors. The British Standards Institution primarily recruits members from trade associations, and only recruits individual enterprises if no trade association exists (Schepel, 2005). However, though integral to the development and adoption of coordinative standards, trade associations in the UK typically do not have the resources necessary to participate in standardization (Christel Lane & Bachmann, 1997).

To institutionalize the involvement of advocates and assure balanced representation in standardization, the British Standards Institution created a Consumer Public Interest Network. Subsequently, the Consumer Public Interest Network established a Disability Expert Reference Group (DERG) to “provide informed knowledge on the vast number of [product and service standards] that

have an impact on disabled people” (BSI, 2013). DERG focuses on inclusivity and accessibility, monitors British Standards Institution procedures, and informs standardization processes.

### **Regulating web accessibility**

The equal treatment provisions included in the DDA formed the legislative basis for regulating web accessibility (Easton, 2012). In 2002, the Disability Rights Commission detailed the application of equal treatment provisions to service providers by issuing a Code of Practice that legally obligated service providers to make websites accessible to persons with disabilities (DRC, 2002). In addition, the UK government recognized that the obligations under the UN CRPD, European Union (EU) law, and the Equality Act 2010 require reasonable adjustments to achieve web accessibility (Parliamentary Office of Science and Technology, 2012). In a 2004 study, which evaluated web accessibility in the UK, the Disability Rights Commission, revealed that “most websites ... fail to satisfy even the most basic standards for accessibility” (DRC, 2004). All interview participants agreed that despite substantial legislative efforts, websites in the UK remain largely inaccessible to persons with disabilities.

Most participants also agreed that web accessibility standards should support legislative efforts to remediate inaccessible websites. A UK advocate describes the influence of the UK’s approach to regulation on web accessibility, stating, “policymakers are pretty lukewarm about strong policy, and the policies tend to end up as more aspirational, more reassurance policies that we take these issues seriously” (ID 02). The UK’s “lukewarm” approach also extends to the use of standards for defining the legal obligations of web accessibility. A UK civil society representative describes the role of standards in UK legislative efforts stating that UK regulators “only refer to [standards] as an afterthought” (ID 03). The use of voluntary standards to support legislation differs from the approach in Norway and Ontario where regulators connected the legal obligations for web accessibility to international standards (“Accessibility for Ontarians with Disabilities Act,” 2005; FAD, 2013).

In the UK, policy actors have relied on the judiciary to challenge or enforce web accessibility. A British Standards Institution representative (ID 05) describes how legislation relates to legal enforcement and compliance.

DDA [DDA] compliant, there is no such thing in the world. The only way you could ever say someone was DDA compliant, was if it's gone through the due legal process and the judge has said you've complied with the law in this case, that's the only way.

The UK government recognizes the enforcement dilemma of the reasonable adjustment approach to web accessibility stating although "commercial websites are breaking the law by not making reasonable adjustments to be accessible ... no precedent has been set showing exactly what constitutes a reasonable adjustment" (Parliamentary Office of Science and Technology, 2012). Therefore, the UK government implicitly indicates the lack of case law contributes to the persistence of web accessibility barriers.

A UK regulatory agency representative (ID 06) articulates how the lack of enforcement and subsequent lack of case law affects private enterprises.

within the UK ... there's been no case law for [web] accessibility, agencies have been threatened with legal action and in some cases have gone through court, but not come out the other end ... Companies say we'll take a stronger stand once people are getting sued because at the end of the day business drives it and if it's going to cost them money they want to know it's money well spent in terms of avoiding bad publicity and the cost of being sued.

Therefore, the lack of case law has created barriers to achieving web accessibility. An advocacy organization representative describes the long-term results of the persistent lack of web accessibility enforcement, "What happens over ten years? Companies don't care anymore; the law loses its effect.



This is what I see has happened, the law has lost its effect” (ID 02). The lack of precedent and judicial enforcement of web accessibility regulations differs from approaches to regulating web accessibility in the United States and Australia, where web accessibility advocates have successfully used litigation and legal threats to enforce web accessibility (Australia Human Rights Commission, 2000; United States District Court for the District of Massachusetts, 2012; United States District Court Northern District of California, 2006).

### **Developing web accessibility standards**

The Disability Rights Commission recognized that implementing the web accessibility obligations of the DDA requires private enterprises to invest in procedural changes rather than reactive prescriptive changes. Thus, the Disability Rights Commission contracted the British Standards Institution to produce a Publicly Available Specification (PAS 78:2006) as a guide for commissioning accessible websites (BSI, 2006). The UK’s approach to developing PAS 78 resembles the EU’s approach to standardization as the European Commission initiates standardization with the European Standards Organizations (Schepel, 2005).

An advocacy organization led the development of PAS 78 in conjunction with the British Standards Institution, other advocacy organizations, government agencies (including the Disability Rights Commission), and private enterprises. Subsequently, the Disability Rights Commission licensed PAS 78, began to provide the standard free of charge, and approved the use of PAS 78 to achieve web accessibility. Subsequently, in 2008, the British Standards Institution created IST / 45, a Technical Committee for Web Accessibility, to “identify processes, documentation and measures” for improving the usability of web-based content, services, and applications for people with disabilities. IST / 45 included the Equality and Human Rights Commission and consisted predominantly of advocacy organizations, professional associations, technology enterprises, and universities. Advocacy

organizations with IST / 45 represented a wide range of disability rights interests including accessible ICT related to sensory, cognitive and physical disabilities.

In 2008, IST / 45 produced a draft for public comment (DPC 8878) based on PAS 78 and included two expectations for compliance, ethical (i.e., compliance benefits older and disabled people) and legal (i.e., compliance minimizes the risk of litigation). In 2010, the British Standards Institution published BS 8878 as a guide for implementing international standards, creating an accessibility policy and testing conformance. Following the publication of BS 8878 the Equality and Human Rights Commission and the UK government reiterated the legal obligation for web accessibility, and recommended BS 8878 for achieving web accessibility (Great Britain & EHRC, 2011).

The UK government's approach to the implementation of web accessibility standards differs from other areas of regulation. The UK government legally requires accessibility of the built environment under the Equality Act 2010. The Department of Communities and Local Government, provides regulations for the built environment, which refer to an accessible buildings standard, BS 8300:2001 ("Building Act," 1984). Compliance with BS 8300 does not constitute a legal obligation. However, as the Department of Communities and Local Government refers to BS 8300 throughout statutory regulations, the regulations strongly encourage enterprises to adopt the standard ("The Building Regulations," 2000). Alternatively, as the Equality and Human Rights Commission has not referred to BS 8878 in regulations for web accessibility, the adoption of BS 8878 in practice or in law relies on the standard's legitimacy.

### **Institutionalizing the legitimacy of web accessibility standards**

The British Standards Institution aimed to institutionalize legitimacy by encouraging broad representation of interests in the development of BS 8878. The British Standards Institution attempted to enhance the input legitimacy of standards by involving persons with disabilities. A British Standards

Institution representative describes the procedures for considering disability in standardization stating, “a group of disabled people [DERG] that have got technical knowledge but they’re also have lived experience of disability. And so they feed into standards committees” (ID 05). The institutionalization of DERG enhances the input legitimacy of standardization at the British Standards Institution. A public agency representative further describes the extent of DERG’s institutionalization stating, “DERG is different from all the others in that all of the other BSI consumer networks are sectorial ... the thing about DERG is that it goes across the whole organization” (ID 07). Thus, DERG may work with standardization in all products and services, unlike other groups within the Consumer Public Interest Network that only operate in select product and service sectors.

The diversity of representation provides evidence that the British Standards Institution promoted the interests of persons with disabilities in the standardization process. However, the representation of private enterprises rather than trade associations demonstrates limitations to the British Standards Institution’s approach to ensuring input legitimacy. While private enterprises participated in the development of both PAS 78 and BS 8878, resource constraints limited the representativeness of private enterprises. The private enterprises involved in PAS 78 and BS 8878 represented the interests of market leaders, and conversely, the lack of market followers contributed to an input legitimacy deficit.

However, if the quality of the standard provides non-market and non-technical benefits, then output legitimacy may compensate for a deficit in input legitimacy. Several participants expressed that the use of BS 8878 results in non-technical and non-market benefits. A British Standards Institute representative (ID 05) explains the benefits of BS 8878 by emphasizing the ethical and legal arguments for web accessibility.

... disability organizations tend to use the morality, human rights, legal argument. You have to do this, the law says so, you have to do this, it's the right thing to do and you want to look nice and be corporately lovely, and life's shit for disabled people, so don't you want to help us and make things better.

The participant reaffirms the British Standards Institution's expectations for compliance with BS 8878, which includes an ethical and legal approach to web accessibility. These approaches demonstrate the non-market and non-technical benefits of BS 8878 and provide a framework for achieving output legitimacy.

## **Discussion**

Standardization can support web accessibility by enhancing the regulatory regime and democratic legitimacy of standards. The results of this article demonstrate the complexity of the UK's approach to web accessibility. The approach to regulation and standardization in the UK demonstrates four essential mechanisms. First, the DDA and the Disability Rights Commission established a legal obligation for web accessibility. To detail the legislative requirements under the Equality Act 2010, UK regulators have adopted statutory Codes of Practice that clarify the application of antidiscrimination legislation to the web.

Second, the UK has adopted a self-regulatory approach to the use of standards. Codes of Practice do not refer to web accessibility standards. Though Codes of Practice rely on judicial enforcement, case law that defines and interprets the legal obligations of web accessibility standards has yet to emerge. Nonetheless, legal enforcement remains an option for advocacy organizations and UK regulators to pursue. Litigation could provide a useful basis for motivating compliance with web accessibility regulations. However, successfully mandating the use of a standard in case law requires legislative support. Thus, while UK regulators have used BS 8878 in persuasive policies, regulators would

have to recommend the use of BS 8878 in a Code of Practice for the judiciary to order compliance. In addition, mandating BS 8878 in case law or regulations would be inconsistent with the UK's self-regulatory approach to the use of standards. Thus, enforcing compliance with BS 8878 may require changes in the broader approach to standardization in the UK.

Third, the British Standards Institution combines institutional features of both regulative and coordinative standards in standardization processes. UK regulators initiated development of BS 8878, to support web accessibility regulations. However, BS 8878 remains voluntary. Fourth, policy actors participate in and determine the standardization process. Standardization processes provide a unique opportunity for policy actors to influence web accessibility policy. The British Standards Institution ensured the representativeness of web accessibility advocates and persons with disabilities in standardization processes. However, trade associations and market followers had only limited involvement in the development of BS 8878. Thus, despite regulations and standards, the web remains inaccessible.

The results of this article provide a useful application for models of standardization. Previous research demonstrates that a robust regulatory regime, typified by agreement on policy objectives and discretion in achieving those objectives, provides a useful basis for a self-regulatory approach (Short, 2013). This article demonstrates that the development of BS 8878 represents a collaborative effort to reach consensus on the objectives of web accessibility. As a procedural standard, BS 8878 allows private enterprises discretion in how to achieve web accessibility. Thus, the results suggest that the approach to web accessibility in the UK demonstrates characteristics of a robust regulatory regime. However, robust regulatory regimes also consist of adequately resourced regulatory agencies with the authority to threaten enforcement. While UK regulators have the authority to monitor and sanction compliance, regulators have experienced financial and resource constraints from reforms aimed at improving

efficiency. Therefore, despite evidence of a robust regulatory regime, this article suggests that the financial and resource constraints of UK regulators have failed to produce a sufficiently robust regulatory regime to support a self-regulatory approach to standardization.

Previous research has also provided an analytic distinction between regulative and coordinative standards (Werle, 2002). This distinction differentiates the use of a standard in law and in practice. However, the results obscure the distinction between the use of a standard in law and in practice. Standardization at the British Standards Institution involves both regulation and market coordination. Thus, standardization relies commercially and politically on the participation of regulators and private enterprises. The British Standards Institution established BS 8878 in conjunction with regulators and private enterprises. However, despite procedures ensuring consensus, private enterprises have yet to adopt the standard in practice. While regulators and the UK government have used BS 8878 in persuasive policies, these policies have not established a legal obligation. Thus, despite the use of BS 8878 to support a legal obligation for web accessibility, adoption of the standard remains voluntary. Consequently, without a mandatory legal obligation, the adoption of BS 8878 relies on private enterprises' compulsion to appear socially responsible and avoid legal risk. Therefore, the results of this article suggest that the use of a standard in law or practice relates to institutionalized norms, values and procedures of standardization.

The UK government has adopted a self-regulatory approach to standardization established in the NSSF. The self-regulatory approach to standardization reinforced the principles of standardization established by the British Standards Institution. Standardization at the British Standards Institution combines public and private interests and juxtaposes regulative and coordinative characteristics. Despite efforts to use BS 8878 to support social regulations, the self-regulatory approach to standardization has promoted BS 8878 as a voluntary standard. Thus, this article suggests that a self-

regulatory approach to standardization mediates the difference between regulative and coordinative standards. Analytically, the results also suggest that the dichotomy of regulative and coordinative standards could provide a useful basis for understanding the variations of a standard's use in law or practice.

Previous research has also modelled standardization based on the democratic legitimacy of standardization processes (Werle & Iversen, 2006). Standards organizations establish input legitimacy by involving broad interests in standardization. However, previous research has characterized the ability to achieve consensus among policy actors with disparate interests as a barrier to achieving input legitimacy (Werle & Iversen, 2006). The British Standards Institution institutionalized the participation of persons with disabilities in standardization, and the development of BS 8878 involved broad participation by advocacy organizations, a typically underrepresented group in standardization. The British Standards Institution has also institutionalized consensus procedures in standardization. However, consensus procedures for developing Publicly Available Specifications and British Standards differ. The British Standards Institution does not require consensus as a substantive criterion for decision-making processes or leadership responsibility and qualifications in developing Publicly Available Specifications. Therefore, the roles of both the sponsor and leader have the authority to influence the outcomes of Publicly Available Specifications disproportionately. In addition, financial and resource constraints limited participation of trade associations and market followers. Thus, this article suggests that institutionalized procedures, which promote efficiency over consensus, and financial constraints, which affect participation, act as barriers to achieving input legitimacy.

Where input legitimacy proves difficult or impossible to achieve, standards organizations can promote output legitimacy by focusing on the quality of the standard. Previous research has characterized output legitimacy based on the non-market and non-technical benefits of the standard

(Werle & Iversen, 2006). The results of this article demonstrates that output legitimacy involves ethical and legal benefits. BS 8878 aims to ensure the accessibility of the web for persons with disabilities. Thus, ethically, BS 8878 provides a basis for achieving social inclusion and equality, two principles enshrined in the CRPD. While the ethical benefits of BS 8878 apply specifically to persons with disabilities, private enterprises can use BS 8878 to demonstrate the enterprise's positive efforts and impact on society. In addition, BS 8878 supports social regulations for web accessibility. Thus, legally, BS 8878 provides a voluntary basis for compliance with web accessibility and antidiscrimination regulations. Although the adoption of BS 8878 does not constitute legal compliance, the use of BS 8878 in persuasive policies does provide evidence of compliance efforts. Thus, this article suggests that models of standardization can usefully extend output legitimacy to include explicitly the ethical and legal benefits of standards.

## **Conclusion**

This article has examined the extent that standardization supports web accessibility regulations. The UK provided a useful case for applying models of standardization. As a voluntary standard that aims to achieve a public policy objective, BS 8878 demonstrates a combination of regulative and coordinative characteristics. Thus, this article recommends that future research use the variation between regulative and coordinative standards presented in this article to develop a more robust typology of standards that accounts for different uses of a standard in law and practice. Despite a legal obligation for web accessibility, policy actors have relied on ethical and legal benefits to encourage the adoption of BS 8878. Ethical and legal benefits provide a more detailed understanding of output legitimacy. Therefore, ethical and legal benefits provide useful areas of investigation for research in cases where standardization supports social regulation. This article recommends that future research explore how the ethical and legal benefits of a standard interact with output legitimacy. Further, the UK case presents useful policy recommendations. This article recommends that policy actors recognize the inherent benefits and limitations of standardization as a national policy solution. This article implicitly



questions whether national policies comprise an effective response to human rights obligations for web accessibility and this article further recommends that policy actors involved in monitoring international human rights obligations further examine the impact of standardization as a mechanism of social regulation.

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