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Universal Design in Sustainable Tourism Certification Schemes

Iratxe LANDA-MATA[a,1], Veronica BLUMENTHAL[a] and Anja FLETEN NIELSEN[a]
[a] *Institute of Transport Economics*
ORCiD ID: Iratxe Landa-Mata https://orcid.org/0000-0003-2529-7202, Veronica Blumenthal https://orcid.org/0000-0002-4439-9776, Anja Fleten Nielsen https://orcid.org/0000-0001-8196-7026

Abstract. Universal design has played a modest role in Norwegian tourism policy, despite its potential for contributing to a more socially, economically and environmentally sustainable tourism industry. The increased interest in sustainability labeling schemes among tourism actors represents an opportunity to work towards universal design of tourism, provided these schemes encompass universal design criteria. Standards for universal design are important in creating recognizable solutions, not least for visitors who often consume services across different sectors in unfamiliar environments. Against this background, we investigated whether sustainable tourism labeling schemes include suggestions made in standards for universal design. Based on previous research on universal design in the transport sector, a coding structure was constructed and used to analyze a sample of 13 tourism-related standards for universal design and five sustainability labeling schemes used by Norwegian tourism actors. Findings show that labeling schemes for sustainable tourism to a very limited extent incorporate measures described in standards for universal design. Moreover, both labeling schemes and standards are primarily aimed at the physical environment rather than the organizational or social environments, and both dedicate little attention to employees. Nevertheless, standards for universal design comprise a much wider range of measures and user-groups. Integrating them into popular sustainability labeling schemes seems pertinent to raise awareness and foster practices that contribute to improve universal design of tourism.

Keywords. Universal design, standards, labeling scheme, sustainability, tourism

1. Introduction

Over time, policymakers have become increasingly aware of the importance of bringing in sustainability into the tourism sector [1]. Despite this trend, universal design (UD) has received little attention in tourism policy, also in Norway. Only recently, UD has been introduced, albeit briefly, in strategies [2] and roadmaps [3] envisioning the future of tourism and describing actions to realize that vision. The weak consideration of UD in tourism policies aiming towards sustainable development of the sector is surprising, as policymakers have acknowledged that UD is key in creating a sustainable society [4] and there is considerable potential for market expansions and subsequent financial gains from enabling more people to partake in tourism activities by employing principles of UD [5].

[1] Corresponding Author: Iratxe Landa-Mata, ++47 467 79 204, ilm@toi.no

Against this lack of focus on UD in tourism policies, voluntary industry-led initiatives may facilitate adoption and implementation of UD principles and measures in tourism and, thereby, exploit the social and economic benefits of improving UD. Sustainability labeling schemes are an example of such initiatives. Since the first sustainable tourism labels appeared more than four decades ago, their number has grown considerably and worldwide there are now more than 200 labels used by tourism business and destinations to provide information and capture demand in a competitive market [6].

However, as with sustainability policies, increased interest for sustainable labeling schemes among tourism industry actors does not necessarily need to translate into UD of tourism. For this to happen, sustainable tourism labeling schemes must at a minimum include UD criteria. Yet, to the best of our knowledge, no studies have assessed the extent to which such schemes include criteria for UD. Against this background, we investigated the extent to which suggestions made in standards for UD are included in a sample of sustainability labeling schemes used by tourism actors in Norway.

2. Body of knowledge informing the analysis

The choice of variables and documents included in our analysis builds on research on UD from the transport sector. With transport being an essential service in tourism, this body of knowledge is a relevant starting point for an analysis of UD in sustainability labeling schemes used in tourism. Prior research on UD from transport has shown that standardization is crucial in creating recognizable solutions [7]. It, thus, seems pertinent to guide our analysis of sustainability labeling schemes by contrasting the criteria posed by such schemes against recommendations issued by standards for UD.

However, standards, as well as guidelines and legislation, operate with various definitions of UD [7][8] issued by international organizations (e.g. United Nations), national legislative actors (e.g. Discriminatory Act) and advisory bodies (e.g. Centre of Universal Design). Additionally, the term accessibility is often used interchangeably with UD, despite accessibility having a much narrower scope. While accessibility is about facilitating access to buildings and areas by creating special solutions for specific groups [8], in its widest interpretation, UD is concerned with including *all* through multiple types of measures [10]. The crucial difference in a UD approach is, thus, that barriers experienced by people with disabilities *and* by other user-groups such as the elderly, children and women should preferably be addressed through measures that benefit everyone. The multiplicity of definitions implies that it cannot be assumed that UD standards and sustainability labeling schemes operate with a shared definition of UD.

Furthermore, research from the transport sector [11] has also indicated that– despite its intended broad scope – UD has mainly focused on what have been termed the *'classic'* disabilities – mobility, visual and hearing [12]. This focus has led to an over-prioritization of physical design and information measures [7][13][14] over i.e. interactional and organizational measures. While research on UD in tourism is sparse, a European study among people with disabilities, the elderly and travelers with children shows that attitudinal barriers are more frequent than physical barriers across sectors, with inaccessible toilets being among the most important barriers [5]. Further international research has also shown that people with disabilities experience barriers when meeting other people and needing assistance [16][17][18]. In Norway, research reveals a lack of training and systems to collect visitors' feedback, little cooperation with user organizations and low user participation [19], in addition to information barriers

[20] [21]. It seem, thus, relevant to assess which user-groups and needs are addressed in both standards for UD and sustainability labeling schemes, departing from a wide range of needs and user-groups [7][13] [14] [15].

Lastly, when working with UD, it is important to reflect on how barriers are understood. Contrary to the *medical* and *social* models that understand disability either as an individual condition or a social construction, the *relational* model views disability as a result of the interaction between the environment and abilities of the individual [20]. Consequently, barriers can be reduced both through environmental and individual adaptations. Aligned with this understanding, the 'capability approach' developed by Sen and Nussmann poses that wellbeing demands turning 'capabilities' and resources into 'functionings' – both 'doings' (e.g. travelling) and 'beings' (e.g. being healthy) – through so-called conversion factors: i) personal (e.g. intelligence, disability); ii) social (e.g. norms, policies); and iii) environmental (e.g. physical or built) [23]. The analysis presented in this paper adopts a multidimensional barrier perspective [15] building on the relational model [22] and the capabilities approach [23] but adding a fourth conversion factor: the organizational [15] to assess which environments are addressed in UD standards and sustainability labeling schemes.

Building on prior research, Table 1 summarizes the main variables and categories informing the analysis presented in this article.

Table 1. Key variables and categories emerging from research on UD in the transport sector.

Definitions	User-groups [7]	Measures [24]	Environments [15]
UD - United Nations	Mobility disabilities	Physical design	Physical - built, natural and digital
UD - Discriminatory Act	Visual disabilities	Information	
	Hearing disabilities	Interaction	
UD - Center of Universal Design	Cognitive disabilities	Organizational	Social - social context around service
	Psychosocial disabilities	Maintenance	
Accessibility	Digestive & urinary diseases	Essential	
	Respiratory & environmental barriers	Sensory	Organizational - how systems are organized
	Seizure-related illness		
	Age (e.g. children, elderly)		
	Gender		
	Minority (e.g. religion, cultural)		
	Language		

3. Method

3.1. Sampling of documents

The selection of standards for UD aimed covering multiple tourism products and services. Standards were identified through systematic searches on the websites of Standard Norway (SN) and the International Organization for Standardization (ISO). Relevant transport-related standards documented by Nielsen et al. [7] were also considered. The sampling and analysis occurred stepwise. The first six standards were selected based on three criteria: they i) focused on typical tourism experiences and services; ii) were not limited to specific situations such as emergencies; and iii) were a priori not restricted to particular users. This initial sample was extended by including standards for UD of more specific elements. Table 2 provides a list of the reviewed standards.

The sample of sustainable tourism labeling schemes included in the analysis consisted of both Norwegian and international schemes for destinations and businesses, to enable comparative analysis across levels (business/destination) and geographical scope (Norwegian/ international). Schemes were selected in cooperation with The Norwegian Hospitality Association and Innovation Norway's tourism department, to ensure inclusion of the most frequently used sustainability schemes among tourism actors in Norway. The five sustainability labeling schemes reviewed are listed in table 3.

Table 2. Sample of analyzed UD standards (*initial sample)

Standard	Topic	Standard	Topic
ISO 21902:2021*	Accessible tourism for all	NS 11030:2013	Personal services
NS 11036:2018*	Tourism experiences	NS 11001-1:2018	Public buildings
NS-EN 15565:2008*	Training of tour guides	NS 11005:2011	Outdoor areas
SN-CEN/TR 15913:2009*	Spectator facilities	NS 11031:2017	Transport - buses
NS-ISO 20121:2012*	Sustainable events	NS 11032:2017	Transport - passenger rights
NS 11033:2017*	Passenger transport services	NS 11022:2013	Vendor machines
		NS 11021:2013	Electronic documents

Table 3. Sample of sustainability labeling schemes included in the analysis.

Name	Level	Scope	Criteria sets
Bærekraftig reisemål	Destination	Norway	2 sets: 1 general and 1 for cruise destinations
European Tourism Indicator System	Destination	Europe	1 set including core and supplementary indicators
Global Sustainable Tourism Council	Destination	Global	1 set for each level, with some criteria overlapping across levels
	Tour Operators	Global	
	Accommodation	Global	
Miljøfyrtårn	Business	Norway	14 sets: one general and 13 sector specific
Green Key	Accommodation	Global	1 set including mandatory and advisory criteria

3.2. Document analysis

The sample of UD standards and sustainability labeling schemes were analyzed based on thematic analysis [25] using a codebook [26] reported by Landa-Mata et al. [26]. Both UD standards and sustainability labeling schemes were coded on i) which definition of UD was used; ii) which user-groups were referred to, iii) what types of measures were described; iv) and which environments were addressed. Themes were, thus, developed deductively and constitute explicit topics that build on the codebook, not latent meanings.

The codebook was initially structured around variables and categories presented in table 1 but evolved throughout the coding process. Adjustments included (but were not limited to) the inclusion of user-groups based on their role as consumers (visitors), employees and other parties (suppliers); the incorporation of a new user-group (people with language-related needs) and new measures (planning, purchase and collaborative); and an improved understanding of organizational measures.

The analysis was conducted in two stages, being sustainability labeling schemes analyzed (phase 2) after the completion of the UD standards analysis and the adjustment of the codebook (phase 1). The coding in phase 1 was conducted by two researchers, each of whom coded a subsample of standards. Cross-checking of coding was limited to situations in which uncertainties arose, particularly at the beginning of the coding process. Standards were coded and analyzed using the software NVivo. Phase 2 was carried out by a second pair of researchers who initially coded *one* labeling scheme each before meeting to assess coding consistency and splitting the remaining labeling scheme between them.

4. Results and discussion

4.1. Inconsistent use of concepts

The analysis showed that the UD standards operate with varying definitions of universal design and that the definitions applied do not always align with interpretations emerging through the standards. For instance, NS11001 states that it is based on UN's definition of UD, but presents measures aimed at improving accessibility by adding adjustments (e.g. a ramp or a lift) to non-universally designed physical environments (e.g. stairs) rather than changing their design to make them accessible for all.

The analysis further showed that criteria and indicators for UD were poorly integrated into sustainability labeling schemes analyzed. When such criteria were included, they were mainly directed at accessibility, rather than UD. Only one of the sets of the Miljøfyrtårn scheme (Facilitation for Outdoor Activities) refers to UN's definition of UD, both explicitly and implicitly (through measures included). In this sense, UD standards can inspire sustainability labeling schemes, particularly if standardization bodies manage to work towards a more consistent use of definitions.

4.2. (Under)prioritized user-groups

A substantial part of the recommendations (UD standards) and criteria (sustainability labeling schemes) are focused on a narrow set of user-groups. Both UD standards and sustainability labeling schemes dedicate very little attention to employees. Only 2 of the 13 UD standards (ISO21902 and NS11001) describe measures referring to this group through the creation of work opportunities for all, and/or implementation of physical adaptations, policy design and evaluation. In comparison, sustainability labeling schemes perform somewhat better, as 2 out of the 5 schemes (Green Key and GSTC-Destination) include criteria to create work opportunities for all and improve accessibility for employees. However, none of the Norwegian schemes included such criteria.

Findings show that needs related to gender, minority background, psychosocial disabilities, and digestive and urinary tract-related diseases are also underprioritized in UD standards, as these user-groups are only mentioned in one UD standard. The analysis revealed also very few references to people with seizure- and language-related needs. In contrast, users with cognitive disabilities and respiratory diseases are mentioned more frequently (9 and 5 out of 13) in UD standards analyzed than what has been found in prior research on UD in the transport sector [7]. Most attention is dedicated to people with mobility, visual and hearing disabilities, as expected based on previous research. Individuals with age-related needs (children, elderly and adults with children) also receive substantial attention and are mentioned in 10 of the 13 analyzed UD standards. Furthermore, we found multiple references to diverse/non-specific user-groups such as "all customers/visitors" and people with "diverse disabilities". This could be seen positive, as design for all is the goal of UD. Yet, this approach can also conceal the needs of individuals who require particular adjustments.

Sustainability labeling schemes analyzed mainly address people with diverse disabilities, although some of the international schemes also mention user-groups with no functional disabilities such as gender and people with minority background. Moreover, one set of the Miljøfyrtårn scheme (Facilitation for Outdoor Activities) mentions specific user-groups through references to established guidelines, being most frequently mentioned users with mobility and visual disabilities, followed by users with age-related

needs (mainly children and adults with prams), seizure-related illnesses, and minority-related needs. This is, thus, the criteria set that includes the widest range of user-groups and the only one based on UN's definition of UD among sustainability labeling schemes. We find, however, no clear relation between the definition employed and the number of user-groups included in our analysis of UD standards. While ISO 21902 (which, among others, uses UN's definition) is admittedly the only standard to mention all user-groups, we also find standards that do not refer to this definition and yet, include various user-groups (e.g. NS11036) and standards that refer to UN's definition, but encompass only a few user-groups (e.g. NS11030). This suggests that a broad definition of UD is no guarantee for embracing a wide array of users.

4.3. Sustainability labeling schemes fail to capitalize on the breath of UD measures

Findings from the analysis of measures described in UD standards and sustainability labeling schemes are summarized in table 4, which shows the total number of references for each measure type and the number of standards and schemes that mention each measure. This table includes the three additional measures identified during the analysis: plan, procurement, and collaboration.

Table 4. Types of measures suggested by UD standards and sustainability labeling schemes.

Type of measure	Standards for UD		Sustainability labeling schemes	
	No. references	No. documents	No. references	No. documents
Physical design	545	10	37	5
Information	284	12	18	5
Interaction	134	10	0	0
Organizational	67	9	3	3
Maintenance	48	5	2	1
Essential	54	6	1	1
Sensory	164	7	0	0
Plan	63	8	16	3
Procurement	14	6	0	0
Collaboration	30	6	3	3

As illustrated in table 4, results vary slightly depending on how occurrence of measure types is assessed. For instance, information measures are mentioned in more UD standards than physical design measures, but the latter rank highest when measured in number of references. That being said, assessments paint a similar picture: physical design measures receive far more attention in both UD standards and sustainability labeling schemes, followed by information measures. The high ranking of physical design measures is, however, not surprising in view of prior research on UD from the transport sector.

A further key finding illustrated in table 4 is that sustainability labeling schemes have a much narrower vision on how to address UD than standards, which all together cover a much wider range of measures, despite also having a bias towards physical design measures. While there are many references to sensory and interaction measures in the UD standards, sustainability labeling schemes fail to include these types of measures, as well as procurement measures. This is surprising given the importance of social relationships, multi-sensory experiences and the prevalence of product packaging in tourism. Also, essential and maintenance measures are only mentioned in one set of the Miljøfyrtårn scheme. This can create challenges in the long term, as UD measures that are not maintained (e.g. hearing loops, information systems, etc.) risk malfunctioning,

and essential measures (e.g. accessible toilets, food and drinks) are measures that all user-groups, including employees, can benefit from. Moreover, many of the UD standards refer to organizational and planning measures, but only the later received substantial attention among sustainability labeling schemes. Having said that, we also observe that measures relating to procurement, collaboration, maintenance and essential measures are mentioned to a very limited extent in the analyzed UD standards.

4.4. Limited focus on the social and organizational environments

Lastly, the analysis reveals a very limited focus on social and organizational environments. While 11 of the 13 UD standards analyzed refer to all three environments (physical, social, and organizational), there are significantly more references to the physical environment. Moreover, no references to the social environment and only a limited number of references to the organizational environment were found in the sustainability labeling schemes. This finding appears to be linked to the identified dominance of physical design and information measures, many of which – though far from all – address the physical environment.

5. Conclusion, limitations and future research

Findings show that labeling schemes for sustainable tourism to a very limited extent incorporate UD and can be improved by building on the breadth of user-groups and measures addressed in UD standards, despite their overly focus on the physical environment and *classic* user-groups. Findings also call for increasing attention on neglected user-groups, measures and environments. Including the needs of the employees and underprioritized groups and addressing the organizational and social environments is crucial to develop tourism services and experiences that can be enjoyed by all and enhance the social sustainability of tourism.

As far as we know, this is the first paper assessing integration of UD standards' criteria in sustainability labeling schemes used by tourism actors in Norway. The analysis expands previous analytical frameworks used in research on UD by identifying three new measures: planning, procurement and collaboration. This has also important practical implications, as these three measures create the foundations for providing solutions that are experienced by end-users and expand our understanding on how to approach UD. Findings imply there is a need to improve consideration of UD in sustainability labeling schemes, so that UD is not overlooked by businesses and destinations interested in becoming more sustainable. Under the increased interest for working with sustainability among destinations and tourism business, incorporating UD standards' criteria into sustainability labeling schemes can contribute to foster UD in tourism.

This paper has, however, important limitations. Findings are based solely on document analysis of UD standards and sustainability labeling schemes, and they do not reflect actual work with UD within the tourism sector. Future research should, thus, explore whether tourism actors implement UD standards, which user-groups, measures and environments they prioritize and why, as well as include the perspectives and experiences of all potential users (including employees). Moreover, the analysis is limited to a relatively small sample of UD standards. A larger sample, including UD standards used in tourism and related sectors (e.g. Scandic's accessibility standard and the Accessibility label for the cultural sector), might have yielded different results.

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