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Accommodation Accessibility Criteria: Towards Improving Accessible Accommodation Information Formats

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ABSTRACT

Studies have identified a series of significant problems with the way that accessible accommodation information is documented and marketed to people with disabilities. While research on seniors and accommodation has been well-established (e.g. Ruys & Wei 1998) no research has investigated the criteria that people with disabilities determine as 'important' to selecting accommodation and their preference for presenting this information. This paper presents the results of a survey to determine the relative importance of room selection criteria. Once the criteria were established, four common information formats used in the Australian context were presented to ascertain the preferences of the respondents. The results strongly found that the preferred format of accessible accommodation information provision was based on a combination of textual, floor plan and digital images. The major variables affecting room selection criteria and the preferred format are the dimensions of disability and level of support needs. An accessible accommodation assessment template was then developed from the results and the paper concludes by presenting an example of the information provision suggested by the accessible accommodation assessment template. The management implications suggest accommodation businesses adopting this format are discussed.

INTRODUCTION

A great deal of research has investigated consumer selection criteria for accommodation¹, evaluation of service quality and benchmarking determinants that may contribute towards accommodation selection (e.g. Bell & Morey, 1996; Callan, 1998; Hsieh, Lin, & Lin, 2008; Nash, Thyne, & Davies, 2006; Warnken, Bradley, & Guilding, 2005). At the same time, there has been a series of well-documented problems that people with disabilities encounter with accessible tourism accommodation provision (Bi, Card, & Cole, 2007; Darcy, 1998, 2002; Innes, 2006; Tantawy, Kim, & SungSoo, 2004; Williams & Rattray, 2005). These issues are not confined to Australia but are a universal experience of people with disabilities wanting to travel. Based on Australian and international academic research, the major issues identified were that accessible accommodation information is poorly documented, not detailed enough, not room specific and do not have an equal amenity to nondisabled rooms. From a supply perspective (O'Neill & Ali Knight, 2000), owners and managers do not recognize disability as a market and, hence, do not promote the rooms in an appropriate manner for people with disabilities to make an informed choice about their accommodation needs. In addition, accommodation managers report low occupancy of the accessible rooms and that non-disabled customers do not like using accessible rooms (Australian Hotels Association, 1998; Davis, 1981; Healey, 2008). As suggested by Packer, McKercher and Yau (2007), there is a complex interplay between the individual, the tourism context and the environment, where in this case, little is understood about the criteria that consumers regard as being important to their choice of accessible accommodation. Further, there has been no research investigating

¹ "Accommodation" is used generically to represent the hotel, lodging and accommodation sectors as terminology and language vary across continents.

the ways in which the criteria should be presented through accommodation management information systems. This research seeks to redress the situation.

A multitude of accessible accommodation information systems exist with outcomes less than satisfactory for consumers (Buhalis, Michopoulou, Michailidis, & Ambrose, 2006). In the Australian context, the three main attempts at information provision are all based on an assessment of the Australian Standards. First, the Australian Automobile Association (AAA), accreditation identified 'disabled' accommodation with a dual icon rating system of 'wheelchair independent access' or 'wheelchair with assistance access'. This system was withdrawn pending the criteria being reviewed (AAA Tourism, 2006). Second, involved textual presentation of key aspects of AS1428 (Australian Quadriplegic Association, 2002; NICAN, 2005). Third, a textual and spatial presentation that incorporated a floorplan of the room showing key measurements (Cameron, 2000; City of Melbourne, 2006). All of these systems focused on mobility access. In the past two years in Australia, a number of initiatives involving accessible accommodation information have arisen. These include:

- The Hotel Motel Accommodation Association have a voluntary code of practice with the Deafness Forum of Australia (2005) over an agreed set of standards for people who are Deaf or have hearing impairments. Motels that adopt the code are given a free listing on the Deafness Forum motel database.
- The Automobile Association of Australia's Tourism (2007) introduced an access information system. The system is an extended checklist based on the Australian Standards. No listing of accommodation has been released.
- Australia for All (2006) is a community advocacy database approach to developing a classification system for accessible accommodation information. There have been significant issues with classification systems in Australia and overseas in the past.

The remainder of the paper reviews a research project that sought to determine consumer's preferred room criteria and format of information provision.

THE OBJECTIVES OF THE RESEARCH

1. Determine the key selection criteria for accessible rooms on which people with disabilities make informed decisions for their access considerations;
2. Provide information about accessible accommodations in the four currently available formats to people with disabilities to determine whether the information meets their access considerations;
3. Ascertain which format was preferred;
4. Develop a template to assist accommodation managers' better market and promote their accessible rooms;
5. Present an abbreviated example of the template (due to page limitation).

RESEARCH DESIGN

The research design employed an online questionnaire of people with disabilities to test the relative importance of accessible room criteria in the accommodation sector and their preferences for the provision of this information. In taking direction from Ruys and Wei's (1998) in research on senior's accommodation needs, recent European research (Europe for All, 2007), the Building Code of Australia (Australian Building Codes Board, 1996, 2001), the Draft Standards for Access to Premises (Commonwealth Attorney General's Dept., 2004, 2008) and the referenced Australian Standards for Access and Mobility (Standards Australia, 1992a, 1992b, 2001, 2002), the *Hotel Accessibility Scale (HAS)* was developed to test the relative importance of accessible room criteria. The HAS includes some 55 individual items

tested in a five point likert scale from 1 'not at all important' to 5 'very important'. The HAS was tested for internal reliability (Cronbach Alpha coefficient), subjected to a principal component analysis to ascertain the relative grouping of items and each item tested for between group means through independent samples t-test and ANOVA (disability groups and level of support needs).

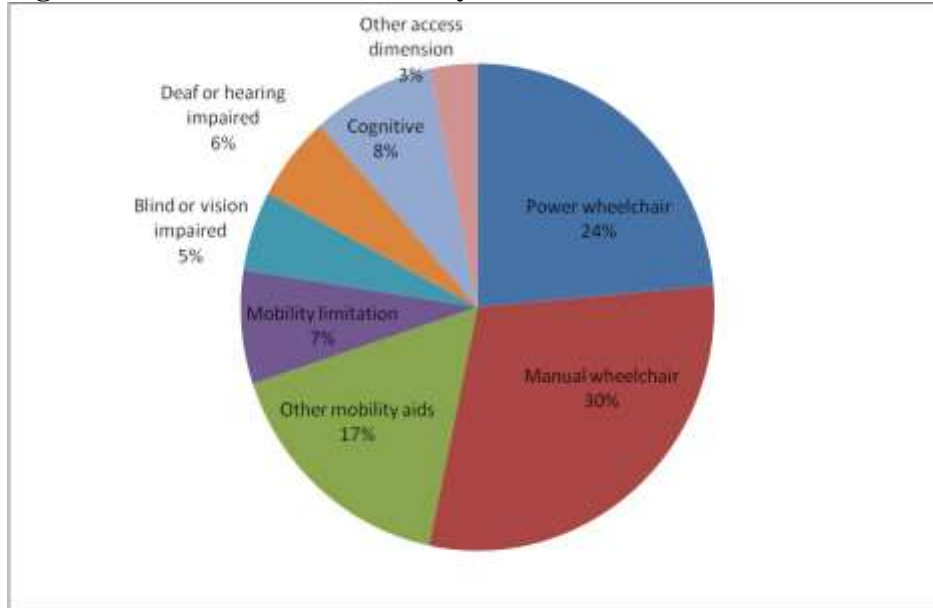
Together with industry partners (Accor & YHA), a preliminary assessment of hotel accommodation stock in Sydney was undertaken to determine accessible rooms of 'best practice'. Access audits of the premises and the best accessible rooms were then conducted based on AS1428 (Standards Australia, 2001) and universal design principles (Preiser & Ostroff, 2001). Information was then prepared in three industry-standard formats and a fourth format of innovation.

1. dual icon rating 'wheelchair independent access' or 'wheelchair with assistance access' (AAA Tourism, 2006);
2. Textual presentation of key AS1428 aspects (Australian Quadriplegic Association, 2002; NICAN, 2005).
3. A textual and spatial presentation that included a floorplan of the room showing key measurements (Cameron, 2000; City of Melbourne, 2006).
4. Textual, spatial and digital photography (for full methodology see Darcy, 2007).

Sample

The sample was drawn from over a hundred disability and seniors organisations through an electronic snowballing technique. Over 1070 people responded to the survey, with 566 fully completed questionnaires used for the analysis. An extensive profile of socio-demographic and psychographic variables was collected, together with their travel patterns, accommodation preferences and information sources. Of these 58 percent were female and 42 percent male, with a relatively even distribution of age. The dominant lifestyle groups were midlife singles, older working couples, younger singles living at home and older non-working couples. The sample was well educated with 48 percent having a University qualifications and 20 percent TAFE educated. The majority of people were full-time (33%) or part time (17%) employed with 24 percent retired or receiving a pension. Over 75 percent were Australian-born with a low affiliation to other cultural or ethnic groups (8%). The dimensions of disability of respondents are presented in Figure 1. In comparison to the Australian national statistics on disability (Australian Bureau of Statistics, 2004), the sample has a higher proportion of people with mobility disabilities, similar proportions of people with vision, hearing, and cognitive disabilities and an under representation of those with mental health disabilities. This was expected as accessible accommodation standards are focused on those with mobility, vision and hearing disabilities. The respondents identified 1077 dimensions of access, suggesting that people identified as having multiple dimensions of disability. Of these people, 39 percent identified as being independent or low support needs, 25 percent medium support needs and 36 percent having high or very high support needs.

Figure 1: Dimensions of Disability



(n=569)

FINDINGS

Internal Consistency: Ruys & Wei (1998) study consisted of a 38 items scale completed by 246 respondents. No measures of internal consistency were reported. The scale has not been used by others. However, there are commonalities between people with disabilities and seniors in a range of their travel behavior and needs that made it a valuable starting point. The HAS was developed through the considerations of the building codes, standards for access and mobility, and other studies on the accessibility of hotel accommodation. Some of the original study items were modified to fit the language of the codes and accessibility standards, with another 15 items specific to mobility and access added. The Cronbach Alpha coefficient of .965 indicates excellent internal consistency for each item.

Principal Component Analysis: The 55 items of the HAS were subjected to a principal component analysis (PCA) using SPSS Version 16. Prior to performing the PCA, the suitability of data for PCA was assessed. Inspection of the correlation matrix revealed the presence of most coefficients of .3 and above. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy value of 0.969 exceeds the recommended value of .6 (Kaiser 1970, 1974) and Bartlett's Test of Sphericity was statistically significant to the 99 percent level ($p = .000$), supporting the factorability of the correlation matrix (Bartlett 1954). The PCA revealed the presence of eight components with Eigenvalues exceeding 1, explaining 65 percent of the variance. Inspection of the screeplot revealed a clear break at the third component with the elbow continuing down to the eighth component, which was confirmed using Cattell's (1966) scree test. As shown in Table 1, a Parallel Analysis (using Monte Carlo PCA) was then undertaken that showed six components with Eigenvalues exceeding the corresponding criteria values for a randomly generated data matrix the same size (55 variables x 569 respondents). These six components were retained as the principal components explaining 60 percent of the variance.

Table 1 presents the comparison between Ruys & Wei's (1998) components and those revealed by the PCA. In this study, the components are more related to accessibility and disability considerations than they are to the more standard service quality features. While sharing some overlap, the context re-conceptualizes the components around the room criteria

set down in Standards Australia (2001). The component with most overlap between seniors and people with disabilities is service/security, with the last two categories comfort/recreation and supplementary mobility being seen as additional considerations not central to their decision. In other words, people can make do with an accommodation if the first four components are present for their considerations. This aspect will be discussed in the application of the finding section.

Table 1: Comparison of seniors and people with disabilities accommodation needs

Components	Ruys & Wei (1998)	Darcy (2009)
1.	Safety	Core Mobility
2.	Convenience	Vision/Hearing (Communication)
3.	Security	Ambulant (Safety)
4.	Service	Service and Security
5.	Comfort and recreation	Amenity (Comfort/Recreation)
6.		Supplementary Mobility

Between Group Variance: Within the structure of the online questionnaire the demographic variables of gender, age, life cycle, country of birth, cultural or linguistic background, highest education, current work status and geographic location were collected. They were also disability specific variables collected: dimension of access (disability type); level of support needs; aids used; and equipment requirements. The sociodemographic variables were tested for between group differences against the relative importance of access room criteria producing statistically significant results to the 95 percent level ($p < .05$). The independent samples t-test identified statistically significant differences for gender (11 items) and country of birth (8 items), and ANOVA for age (7 items), employment status (18) and highest education level (19). However, it was disability type (47 items) and level of support needs (38 items) where the greatest between group variance was explained. The results demonstrate that there was significant variation in access room criteria preferences between people with mobility, vision, hearing and cognitive dimensions of disability. The access room criteria preferences had a further level of complexity when the level of support needs was overlaid. This complexity included specialist equipment that respondents travelled with, the interaction with attendants for personal care assistance and the dynamics of the group that people were travelling with including family, friends, other people with disabilities or group travel involving sport or advocacy purposes. The latter two purposes required the need for multiple accessible rooms with some groups requiring up to 20 accessible rooms for major events where most hotels only had three accessible rooms.

Access information preferences: These results for access room criteria were further reinforced when looking at the results for access information preferences for accessible accommodation. As Table 2 reveals, the respondents main preference was Digital Photography with floorplan and text (72% =1.51) followed by text with floorplan (14%). There were statistically significant differences based on disability type and level of support needs to the 95 percent level. Power and manual wheelchair users were exclusively for the digital photography/floorplan/text with people with other mobility aids/limitation were less exclusive in their preferred information format. Similarly, when independent travelers were removed from the sample, the support for digital photography with floorplan rose to the 99 percent level. Not surprisingly, people who were blind or visually impaired did not find the digital photography useful for their purposes but found the rich text description very helpful. The product testing confirmed that the most important information for people determining the appropriateness of a hotel for their needs was the consideration of the bedroom and the

detailed criteria of the bathroom. Photographs needed to address these issues rather than the general accessibility of the hotel.

Table 2: Preferred Information Formats

Format	Mean	Std. Dev	Variance
1. AAA icon	3.53	.954	.909
2. Textual	2.79	.695	.483
3. Floorplan	2.14	.720	.519
4. Digital images	1.54	.943	.888

(n=569)

APPLICATION OF RESULTS

With respect to Ruys & Wei (1998), the findings of this research have shown that when detailed access considerations are incorporated as part of a scale for determining the relative importance of accessible accommodation room criteria that access considerations are overriding for those who need them no matter what their age. While the seniors' market research indicates that they value traditional areas of service quality, those with access considerations need the types of provisions investigated within this study as a pre-requisite for selecting an accommodation provider. Yet, these considerations do not feature prominently in marketing or promotion to this group. The reasons for this are perplexing. Yet, the findings in this research are quite straightforward, access considerations are the prerequisite for selecting an accommodation. In fact, the findings suggest that the respondents in this study prioritize access above other areas of the premise, including recreational areas (eg. swimming pools and gymnasiums), as secondary considerations to being able to access the accommodation room and, in particular, the bathroom. The qualitative findings of the study not discussed in this paper suggest that not being able to **access all areas** of a premise is regarded as deplorable by people with disabilities but that pragmatically they will stay if the accessible room suits their access considerations. Conversely, those premises that are able to deliver **access to all areas** as well as having rooms of equal amenity will be at a distinct marketing advantage to the discerning traveler with a disability.

What can management do to better represent their rooms to those with access considerations? From the results, an Accessible Accommodation Assessment Template (AAAT) (Darcy & Cameron, 2008) has been designed to assist the owners or managers of accommodation premises to present the accessible features of their facilities. The AAAT will help in the gathering and dissemination of information about accessible accommodation. Research shows that this information forms a critical component in the decision making process of those who require accessible accommodation. The information will help travelers with disabilities make decisions about premises, and help business to market and promote accessible accommodation. The AAAT comprises two sections: Section 1 - Key Information Requirements (KIRs Pages 2 – 7); and Section 2 - Guide to completing the KIRs (Pages 8 – 13). Section 1 identifies the main information needs and asks specific questions about the access provided. The questions follow the Continuous Accessible Path of Travel concept as identified in the Australian Standards for Access and Mobility (AS 1428). The detail reflects the information collected in this study as well as Europe for All (2008). The document is divided into eight parts:

- Part A Premises name and contact details.
- Part B Transport and parking
- Part C Main entry and foyer



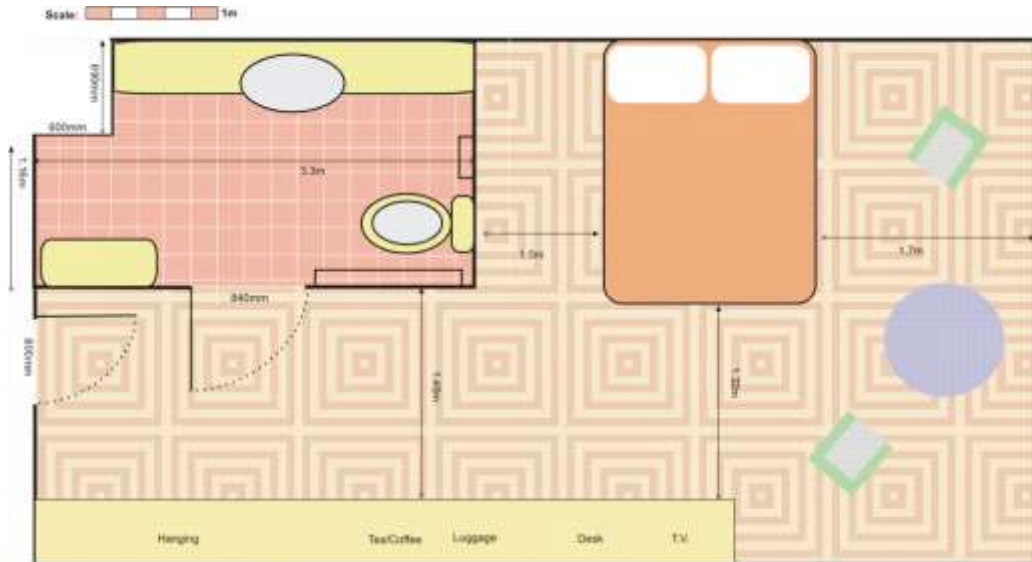
Part D	Signage, toilets, telephones, lifts and corridors
Part E	Accessible room(s)
Part F	Bathroom
Part G	Respiratory and other sensitivities
Part H	Other features

Section 2 provides a guide to completing the KIR's and an example of a completed template. Figure 2 presents an example of Part F for bathroom accessibility and a floor plan of the whole room. The AAAT has now been trialed as part of a study for developing Accessible Alpine Tourism in the Australian snowfields. The template was provided to the owners of accommodation premises within these areas together with the expertise to complete the template. Some 50 templates were completed and an evaluation of the template completion and use currently being evaluated (Dickson & Hurrell, 2008).

CONCLUSIONS

This research has provided greater empirical understanding of the access considerations of people with disabilities and accessible accommodation. In particular, it has highlighted the complex level of information required for people to make an informed decision about their accommodation needs. The research suggests that previous attempts to create an iconography or rating system for accessible accommodation are misguided. A radical simplification of the high level of detail presented in the Building Code of Australia and the Australian Standards for access and mobility is not possible without compromising the detail required by people with disabilities using accessible accommodation. Access is an individual 'discourse' where people expressed their desire for detailed information, visual reinforcement, an understanding of the spatial dimension of the room as important elements to make an informed decision for their access considerations. The weighting of which of these criteria was crucial for individuals to make an informed decision varied between individuals. The more detailed the information on accommodation within clearly defined criteria, is the appropriate, effective and efficient organisational response for presenting accommodation information for accessible rooms.

Figure 2: Completed AAAT for Part F bathroom accessibility and a floor plan

Part F - Bathroom	
Details & Description	
<p>Example:</p> <ul style="list-style-type: none"> • Door width 840mm Lever handle 1m high & opens outwards. • Roll-in shower with hand held rose & lever tap • Grab rails height 800mm. • Fold down shower seat 460mm high 1m x 400mm. • Toilet <ul style="list-style-type: none"> • height 480mm, • centre to side 460mm, • front of bowl to rear wall 820mm, • grab rail height 800mm. • Basin height 800mm clearance lever tap. • Light switch at 1.3m. <p>Photo 1: Toilet, basin , handrail & circulation space, Photo 2: Roll-in shower, bench and grab rails.</p>	<p>1.</p>  <p>of 2.</p> 
Room Floorplan	
	

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