ELSEVIER

Automation in Construction 15 (2006) 462 – 478

AUTOMATION IN CONSTRUCTION

www.elsevier.com/locate/autcon

Awareness of universal design among facility managers in Japan and the United States

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Abstract

This comparative study is based on two surveys conducted in Japan and the United States to understand how facility managers recognize and practice universal design in their workplaces, and to identify what factors are likely to facilitate or obstruct their practice. The results showed that, although many facility managers recognized the advantages of applying universal design, most organizations currently provided accessible workplaces merely within the scope of legal requirements, while few organizations achieved consistency between corporate mission and strategies, knowledge of facility managers, and the degree of workplace accessibility practices. US organizations and Japanese organizations showed different perceptions of the issue in terms of advantages of universal design based on differences in management style. The findings also suggest that an understanding of the issues by top management is key to promoting universal design practice.

Keywords: Facility management; Older workers; Universal design; Workers with disabilities; Workplace accessibility

1. Introduction

The concept of universal design is currently being applied to a variety of fields, including architecture and product design. The underlying reasons for this growing tendency are the rapid evolution of an aging society in the developed countries and an increase in the demand of people with disabilities for full recognition of their civil rights. In the United States, it is estimated that the percentage of people age 65 and over will increase from 12.4% in 2000 to 20.7% by 2050, whereas the percentage of the workforce between the ages of 20 and 64 will decline from 59.0% in 2000 to 53.4% by 2050 [1]. The population projection in Japan appears to be even more radically different. In 2000, the percentage of people age 65 and over was 17.4%; however, it is estimated that the percentage will increase to 35.7% by 2050. It is further estimated that the population of the workforce between the ages of 15 and 64 in Japan will decline from 68.1% in 2000 to 53.6% by 2050 [2]. These statistics imply that people over 65 will gradually take up a higher proportion of the workforce. Moreover, as people live longer, they will be more likely to want to remain in the workforce for longer. Dynamic demographic changes and increasing variations in people's lifestyles will increase the need to broaden the diversity of the workforce, to include senior people and people with disabilities.

The employment of people with disabilities remains a critical issue both in the United States and Japan. In the United States, the number of workforce-age adults (21–64) with disabilities was estimated at 30.6 million people or 19.2% in 2000 [3], nearly three times as large as the percentage of that same group in 1990 [4]. Of this group, only 56.6% were employed in 2000, which is a significantly lower employment rate when compared to 77.2% of those without disabilities who were employed in the same period [3]. In Japan, the number of non-institutionalized people aged 18 and over with physical and/or intellectual impairments was estimated to be about 3.5 million or 5.2% of all workforce-age adults in 2001, which represented an increase

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doi:10.1016/j.autcon.2005.06.013

of 8.7% since 1996 [5,6]. Of this figure, only 190,000 (5.8%) were actually employed by either the public or private sectors. Although political and legislative interventions have been broadly implemented in both countries, it is still necessary to take further action to promote the employment of people with disabilities.

Meanwhile, many successful organizations have employed workplace diversity in a broad sense, including older workers and those with disabilities, as a corporate strategy to survive intensive business competition [7,8]. For example, since the early 1990s, IBM worldwide has developed the "Workforce Diversity" program, one of the most comprehensive programs for diversity in the current business world [8,9]. This program is one of the most important corporate strategies, aimed at reinforcing the competitiveness of IBM by making the composition of its employees reflect that of the communities that the company serves, and by highlighting a variety of individuals' characteristics, including their physical and intellectual abilities. Many of the organizations that have implemented similar workplace diversity strategies have enjoyed both tangible and intangible benefits from such policies [8,10].

This approach of developing workplace diversity will definitely transform work environments to a new paradigm and alter the responsibilities of facility managers for physical workplaces. Facility managers will be increasingly required to prepare their workplaces to accommodate the wider range of workers. Advocates for universal design argue that it has the potential to facilitate more inclusive workplaces that will consequently improve organizational quality; however, very few of those likely benefits have been actually confirmed by research.

As part of the ongoing research on the effectiveness of universal design in the workplace, the Universal Design Research Committee of the Japan Facility Management Promotion Association (JFMA-UD) conducted two surveys, one in Japan and the other in the United States. The purposes of this comparative study are to understand how facility managers currently recognize and practice universal design in their workplaces, and to identify what specific factors are likely to facilitate or obstruct their practice. By understanding the current state of universal design awareness and practice, this study is intended to be a first step to inductively identify the outcomes of universal design and, if its benefits are confirmed, to propose solutions to facilitate universal design practice among facility managers. Japan and the United States were chosen as the subject countries of the surveys because of the different dominant approaches these two countries employed toward the provision of building accessibility and the social awareness of disability and aging (i.e. market-driven in Japan vs. legislation-driven in the United States). Therefore, we assumed that a comparative study would help us infer how these two different approaches could lead to different outcomes. This paper presents a summary of the results of these two surveys.

2. Literature review

2.1. What is universal design?

Universal design is defined as the "design of products and environments usable by all people to the greatest extent possible, without the need for adaptation or specialized design" [11]. Applicable to all ages, personal abilities and sizes, with an inclusive capability that transcends barrier-free and accessible design, the concept of universal design was coined in 1985 by Ronald Mace, an architect who had a disability himself [12,13]. This concept has been accepted in a variety of design fields, such as architecture, engineering, product design, and landscape design.

Meanwhile, accessible design and barrier-free design, which are often considered inappropriately as similar concepts to universal design, have been broadly recognized in the field of architecture, mainly through architectural regulations. Accessibility is defined as a quality of a built environment to be accessed by people with physical disabilities and/or older people. Barrier-free design is defined as a design concept to make a built environment accessible to people with physical disabilities and/or older people by removing the architectural barriers present in existing buildings [13]. These two concepts can be used as virtually synonymous terms.

From the perspective of disability studies, both universal design and accessible/barrier-free design can be conceptually based on what many scholars call "the social construction model of disability" [14–17]. Unlike the medical model or other models that regard disability as a problem within an individual's body, this model defines disability as a product of social interaction, thought, belief, and language used in a certain culture, and sees social interventions to increase the mutual understanding of people as the key to inclusion and participation of people with disabilities in community activities. According to this model, universal design and accessible/barrier-free design are an approach to lower environmental barriers to participation.

However, there are several theoretical differences between universal design and barrier-free design/accessibility. First, while barrier-free design and accessibility are predominantly associated with the issues of access focusing on disability, universal design does not necessarily focus only on disability. Rather, universal design broadly defines the targeted users and the nature of diversity. Its focus is not specifically on people with disabilities, but instead on the inclusion of all types of people in "one" society [9,13,18], and has argued against the virtual segregation of people with disability from other social groups by "special" design interventions [19,20]. Secondly, barrier-free design and accessibility have been primarily driven by political and legal interventions [13,21,22]; universal design entails the power of markets that makes it possible to promote cheaper, common, and attractive products and environments [23].