Applying user centred and participatory design approaches to commercial product development

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Traditional design approaches have been accused of failing to engage with users in the design process: compromising commercial opportunity and the interactional experience of users. Alternatively, a participatory design approach was applied to the generation of ideas for new product opportunities in the active wheelchair user market and to the initial stages of a European project aiming to develop an intelligent mobility aid for older people. Users were acutely aware of problems with existing technology or designs, and including them during early discussion and design stages was shown to facilitate new concept generation. This highly transferable approach enhances the user experience and commercial potential of products and services, and will be of interest to product manufacturers, designers, and researchers, alike.

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Literature suggests that traditionally the views of individual users, and particularly older people, were not sought to inform the design process (Hansen, Percival, Aldred, Brownsell, & Hawley, 2007). This lack of involvement in the design and evaluation stages of product development may be responsible for causing some of the generational and age-related issues that preclude a large proportion of the populace interacting with products and may explain older peoples' reluctance to engage with new technology. Individuals' views are not sought and, accordingly, designers fail to realise and cater effectively for their specific needs. This, in turn, may manifest itself in reluctance on behalf of this market to purchase or interact with many forms of modern technology (Figure 1).

Lewis, Langdon, and Clarkson (2006) observed that designers were typically male and able-bodied, and a more recent survey of the UK design industry reinforced concerns regarding a lack of diversity within the design community itself. The survey revealed that the average UK designer is male, white, and

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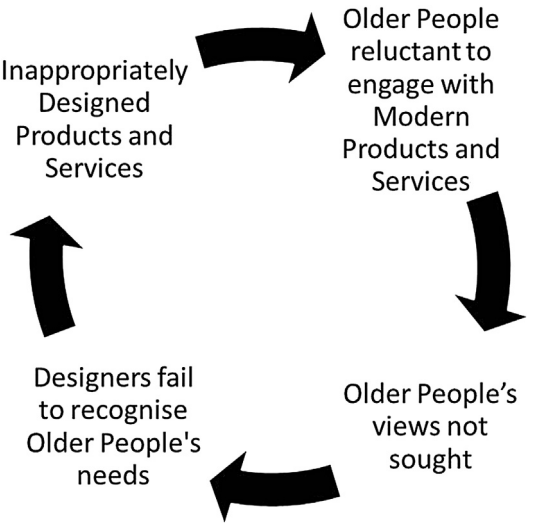

Figure 1 Cycle of design oversight influencing the uptake and engagement of technology (Wilkinson, 2011)

38 years old, with only 7% of UK designers coming from ethnic minority backgrounds (Design Council, 2010). The concern expressed was that designers may assume that all users possess the same cognitive and physical abilities as themselves, and a failure to connect with all potential user groups may risk alienating or excluding significant proportions of the population.

As well as being ill-judged, alienation and exclusion also make poor business sense. Failing to engage with potential users or user groups that may form part of an increasingly influential market force potentially misses a commercial design opportunity. Developing products that cater more effectively for a larger demographic widens the commercial market, benefits a larger cross-section of society, and makes both commercial and ethical sense. User involvement within the design process is seen as the key solution to affect such an outcome. Including a wider and more representative sample of end-users – able-bodied and less-able bodied users, children, and the elderly – at early stages of the design process, removes the need of designers to rely on their own knowledge or skill sets as personal points of reference. Indeed, catering for diversity within the target market should not be a unique approach; it should be prerequisite for all design and a natural component within requirements specification. Design should consider the user as an individual, possessing individual aptitudes, experiences, and other human characteristics, accounting for the abilities and limitations of all potential users. Products designed in this way will be capable of being used by people with the widest possible range of abilities, within the widest range of situations, reaching most, if not all, potential end users.

Following an overview of the distinctions between the different user-focussed approaches available, this article details two exploratory and collaborative