

Sustainable water consumption: the role of consumer behaviour in (re)shaping water utility industry business models

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Water is a basic human need. However, a combination of population growth, climate change, urbanisation and economic development all pose potential threats towards water resource sustainability, not only in the UK but throughout the world. Regions of the UK have already begun to experience isolated incidents of water shortages due to extreme weather conditions, and by 2020 it is predicted that a large proportion of the UK's population will be living in areas where these shortages become more frequent. The impact due to climate change has also highlighted the needs of adaptation to an uncertain future, where polarised events (i.e. drier summers and wetter winters) are very likely to become more common.

Although technological improvements in the water supply infrastructure will play a part in securing future supply, it has been recognised that one of the most economic and effective ways to reduce the risk of water-stress is to reduce consumption and demand. However, in order to overcome the barriers of water-intensive lifestyles in the UK, there is a need to gain a better understanding of the types of factors that may lead to long term reduced consumption. The water utility industry has started to prepare for climate change impact by drawing up plans and strategies for adaptation. However, very few of them, if at all, take into account the role of consumers in terms of their attitude and behaviour variation due to increasing awareness of climate change.

Human behaviour is extremely complex, and it has been recognised that rationality alone does not determine the adoption of pro-environmental behaviour (Kollmuss and Agyeman, 2002; Bamberg and Möser, 2007). Drawing from economic and psychological theory, a

number of pro-environmental behaviour models have consequently been developed to examine the factors that drive behaviours such as recycling and reduced energy consumption. However, limited research has specifically addressed water consumption. In addition, existing studies have focused on areas where water supply is already severely under threat (Jorgensen *et al.* 2009), rather than examining areas where future risks have been predicted. This research will investigate consumer responses to a variety of future climate change impacts in the UK, under different greenhouse gas emission scenarios; namely low (B1), medium (A1B) and high (A1F1). Gaining an understanding of the consumer responses to these different scenarios could then significantly contribute to (re)shaping future water utility business models under climate change impact.

The paper will report on:

- a comprehensive review of existing models of pro-environmental behaviours, highlighting the limitations of these models with respect to behaviours related to household water consumption;
- the results of focus groups conducted to ascertain the views of household water consumers. These focus groups provide the opportunity to explore determinants of current and future behaviours towards water use under a variety of projected water supply scenarios.

The research aims to determine the potential barriers to reducing household water consumption. It will analyse the effects of consumer behaviour on ‘climate-change driven’ modifications to water utility companies’ business models. In particular, the research examines the important role of gaining consumer trust and the potential impact that emotional responses to predicted future scenarios may play in shaping behavioural intentions towards reducing water use.

References:

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