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Improving eco-efficiency of a swimming hall through customer involvement

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ABSTRACT

Findings from a project aiming to improve eco-efficiency of a swimming hall in Finland are presented in this article. There are various opportunities for eco-efficiency improvements for a swimming hall, many of which belong to responsibilities of the staff. However, there are aspects where also customers could participate. Consequently, changes in the current behavior of the swimming hall management, staff and customers are required. Results from customer survey and staff interviews suggest that lack of knowledge about the swimming hall-specific environmental impacts and possibilities of the respondent (either staff or customers) to actively engage in pro-environmental work at the site are the greatest obstacles towards pro-environmental behavior. In this article, several options for how to promote pro-environmental behavior at a swimming hall are discussed.

1. Introduction

The nature of environmental challenges has changed considerably in recent decades. Even though the global nature of environmental problems has long been known, it is only in recent years that they have become widespread matters of concern among the general public. This has also been reflected in the increasing level of environmental knowledge and pro-environmental values of the citizens. According to a number of studies, consumers in developed western countries are generally well informed about environmental issues and do value the environment. In Europe, a survey mapping the environmental attitudes of the Europeans conducted by the European Commission in the end of 2007 (European Commission, 2008a) shows that the Europeans attach overwhelming importance to protecting the environment. 96% of the respondents say that it is very or fairly important to them personally. In addition, 80% of the Europeans consider the state of the environment to have a great impact on their quality of life.

The Europeans tend to see the environmental protection as a joint responsibility in the society: 86% consider their own role significant (European Commission, 2008a). It seems that a challenge for now will be how to encourage general public and consumers towards pro-environmental behavior.

Responsibility issues, including ethical and environmental considerations, have to some extent been materialized in the actual decision making and behavior of the European consumers. According to the European Social Survey 2005, almost half of the Europeans respondent had taken political, ethical, or environmental issues into consideration when making a buying decision within the past year (Statistics Finland, 2005). Also the more recent European study (European Commission, 2008a) supports this view: 17% of the European consumers have bought some environmentally friendly product(s) within the past month. In some product categories the sales of environmentally friendly products is increasing fast. For example, the value of sales of organic food grew globally by 43% in 2007. However, the market share of organic food is only about 4% in Europe (European Commission, 2008b). It could be stated, that until now the pro-environmental values are not reflected in the buying behavior of the consumers in particularly large scale.

The traditional theories explaining consumer behavior (as one of the first and widely used Fishbein and Ajzen, 1975) are based on the idea, that positive values towards a certain matter (e.g. the environment) and the beliefs about the benefits that certain behavior would bring to this matter, predict the behavior of a person. Therefore, a person valuing the environment should theoretically end up with pro-environmental consumption decisions. As was explained above, pro-environmental values do not, in practice, seem to lead systematically to pro-environmental consumer behavior. A number of studies measuring the environmental values, attitudes and behavior of the consumers have

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identified this so-called value-action gap (Barr, 2006; Dunlap et al., 2000; European Commission, 2008a; Follows and Jobber, 2000; Kollmuss and Agyeman, 2002; Mainieri et al., 1997; Montalvo, 2003; Uusitalo, 1993). The environmental value-action gap has been studied extensively, but no general explanation to its existence has been discovered. It seems that the explanations are rather product or situation specific.

As environmentally sound performance requires a change in behavior, it becomes apparent that a lot of the above-mentioned challenges will need to be addressed by specialists who will communicate and explain environmental issues to public, encourage holistic approach towards particular aspects of the environment, and help to understand that pro-environmental behavior does not always mean huge sacrifices and difficulties. Marketers can undertake proactive interventions within their own group of stakeholders, both external and internal, most importantly customers and staff. What is more, such communication will have to be adjusted to different products and services and their specific environmental aspects.

This article presents findings from a project aiming to improve the eco-efficiency of swimming halls and baths in Scandinavia. High energy consumption, water use and disposal, and waste generation constitute three focus areas in the efforts to improve the eco-efficiency of a swimming hall. There are various opportunities for eco-efficiency improvements. Many of these challenges belong to the responsibilities of the swimming hall's staff and might include architectural, electromechanical or some other operational, managerial or strategic changes within the swimming hall as an organization. However, there are aspects where also customers could – and for the success of the eco-efficiency targets ought to – take part in. Hence, all this will require certain changes in the current behavior and habits at the swimming hall site from management, staff and customers. Therefore, particular interest in this paper is in the promotion of pro-environmental behavior of the staff and customers of a swimming hall.

The article continues with a short introduction into the related project followed by a description of the case swimming hall's activities and its environmental impacts. Then, theoretical framework for understanding pro-environmental behavior of both staff and the customers of the swimming hall is outlined. Next, data and research methods used are described. In the following section, the study provides results from a survey conducted among the swimming hall customers and interviews with the staff members. Then implications for environmental management and marketing are discussed and short conclusions close the article.

2. Improving eco-efficiency at AaltoAlvari swimming hall

ProMidNord is a project financed by the European Union Interreg program aiming to improve the eco-efficiency of Scandinavian swimming halls and baths. Swimming halls and baths from selected cities in Finland, Norway and Sweden took part in the project as pilot cases for environmental improvements, AaltoAlvari swimming hall in Jyväskylä, Central Finland, being one of them.

2.1. AaltoAlvari swimming hall

AaltoAlvari is one of the largest water recreation centers in Finland. In addition to being a popular sports centre for local residents, it is counted as one of the top touristic attractions in Finland for regional, national, as well as international guests (ranking as the most visited spa in Finland, and in place 14 among all tourist attractions in the country in 2007, Matkailun edistämiskeskus, 2008). It is a sports centre suitable for all families, where customers can enjoy a variety of water and health activities: a range of different pools, saunas, a gym with a wide variety of equipment and professional supervision, and a cafeteria.

2.2. Environmental impacts of a swimming hall

According to Trianti-Stourna et al. (1998), swimming halls are the second most popular type of sports facilities. The three main environmental aspects of this type of public recreation centre include energy use, water use and waste water disposal, and solid waste generation and disposal. Of these three, the energy consumption constitutes the most significant environmental aspect (Bohdanowicz, 2005).

Energy consumption in sports facilities differs significantly depending on location, type and use. Indoor swimming pools (like AaltoAlvari) are known to have relatively higher energy consumption than sports halls and outdoor pools, due to specific indoor requirements. Thus for an indoor swimming pool, its energy consumption is about three times higher than an outdoor one with the same size (Trianti-Stourna et al., 1998). Controlling the indoor air temperature in the swimming pool area enables substantial energy savings. Maintaining the right proportion between the pool's water and air temperature (with the air temperature at max. 1–2 °C higher) belongs to the duties of swimming hall staff. However, at the same time the health and comfort of the swimmers have to be respected, and the temperature of the water has to be at a level, which the customers are willing to accept.

Pool water quality is a critical element in providing a good swimming pool environment. Pool water is being polluted to some extent the whole time it is being used, especially by recreational swimmers. Substances like human excretions and tissues, dirt, and cosmetics are the three main categories of human caused pool water pollutants. Urea in sweat and urine tend to be the most problematic from the above mentioned. This is because it reacts with disinfectants used in pool water and produces combined chlorine, which is the main cause of eye and skin irritation and irritant fumes in the pool environment. Fresh water is necessary at the rate of up to 30 L per bather per day to maintain a satisfactory level of water quality (Trianti-Stourna et al., 1998). Good pool hygiene, along with proper circulation, disinfection and filtration, are usually sufficient measures that the swimming pool staff can take to control water pollution. From the customers' perspective, pre-swim showers and proper hygiene are highly recommended. AaltoAlvari swimming hall has its own waste water treatment system, which means that they do not dispose of the waste water, but return it to use after the treatment. As for the water use level at AaltoAlvari, the site has automatic "water stop" systems installed in the shower facilities, which enables substantial water savings.

With regard to waste generation and disposal at AaltoAlvari, sources of waste include the litter generated by customers, waste from activities related to the cleaning and maintaining of the site, waste from the swimming hall's cafeteria, and waste from office facilities. For proper waste disposal, separate waste containers for dry and bio waste are located in the sport centre. Additionally, the paper towel disposals in lavatories have been replaced with electric hand dryers, which considerably minimizes the generation of waste from used paper towels.

Considering the different pro-environmental solutions that are already in place at AaltoAlvari, it was concluded that its energy use considerably exceeds its water use and waste generation and disposal impacts. Hence, the energy use is considered as the most significant environmental impact of AaltoAlvari, and should thus receive the most attention in its process of eco-efficiency improvements.

Many of the environmental challenges at AaltoAlvari belong to the swimming hall's staff (technical, operational, managerial or