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## **Heritage tourism, CSR and the role of employee environmental behaviour**

**Victoria.K.Wells<sup>a</sup>**

**Danae Manika<sup>b</sup>**

**Diana Gregory Smith<sup>c</sup>**

**Babak Taheri<sup>d</sup>**

**Clair McCowlen<sup>e</sup>**

<sup>a</sup> *Corresponding author*, Durham University Business School, Wolfson Building, Queens Campus, University Boulevard, Thornaby, Stockton on Tees, TS17 6BH, UK, telephone: +44 (0) 191 334 0472, email: v.k.wells@durham.ac.uk

<sup>b</sup> School of Business and Management, Queen Mary University of London, Bancroft Building, Mile End Road, London E1 4NS, UK, e-mail: d.manika@qmul.ac.uk

<sup>c</sup> Sheffield University Management School, University of Sheffield, Conduit Road, Sheffield S10 1FL, UK, email: d.gregory-smith@sheffield.ac.uk

<sup>d</sup> Department of Business Management, Heriot-Watt University, Edinburgh, Scotland, UK EH14 4AS, e-mail: B.Taheri@hw.ac.uk

<sup>e</sup> Global Action Plan (GAP), 9-13 Kean Street, London, WC2B 4AY, UK, e-mail: Clair.McCowlen@globalactionplan.org.uk

## **Heritage tourism, CSR and the role of employee environmental behaviour**

### **Abstract**

Although research on corporate social responsibility (CSR) has grown steadily, little research has focused on CSR at the individual employee level within cultural heritage tourism. This article sheds light on the antecedents of employee environmental behaviour and the effects of a social marketing intervention in a tourism organisation using a mixed methods longitudinal approach. Qualitative results (from 68 respondents) suggest knowledge and awareness of environmental solutions are often lacking while quantitative results (from two surveys with 237 and 96 employees) highlight the influence of motivations, perceived potential to change and perceived information adequacy on employees' satisfaction with their environmental behaviour. Additionally, a proxy measure of actual behaviour change, energy usage, is reported, highlighting the intervention's success in changing actual behaviour. The paper highlights the need for managers to increase knowledge and self-efficacy and to carefully consider how varying motivations and barriers might explain differences across organisational sites when designing interventions.

**Keywords:** CSR, tourism, cultural heritage, employees, OCBs, environmental behaviour

**Victoria.K.Wells** is a Reader in Marketing at Durham University Business School and a mid-career fellow at the Durham Energy Institute (DEI). Her research interests lie in the application of behavioural psychology to consumers, foraging ecology models of consumer behaviour and environmental behaviour, psychology and social marketing. She joined Durham University Business School in 2011 as Senior Lecturer, after holding the post of Lecturer in Marketing and Strategy at Cardiff Business School. Prior to joining Cardiff Business School she worked in Marketing Communications as an Account Executive. She has published in a wide range of journals including Journal of Business Research, Journal of Marketing Management, Marketing Theory, Service Industries Journal, Journal of Business Ethics and Psychology and Marketing amongst others.

**Danae Manika** is a Lecturer in Marketing at the School of Business and Management, Queen Mary University of London. Her research interests fall within the areas of consumer behaviour and marketing communications, focusing on health, environmental issues and behaviour change. Other research interests include social marketing and advertising. Before joining Queen Mary, she worked as a Lecturer in Marketing at Durham University, and as an Assistant Instructor in Advertising at the University of Texas at Austin, in the United States, where she also received her PhD. Her research has been published in the Journal of Business Ethics, Journal of Marketing Management, Journal of Marketing Communications, International Journal of Advertising, Technological Forecasting and Social Change and Health Marketing Quarterly amongst others.

**Diana Gregory-Smith** is a Lecturer in Marketing at the Management School, University of Sheffield. Her research interests lie in the area of consumer psychology (particularly applied to ethical and sustainable consumption) and social marketing (in relation to health and environmental behaviour among consumers and employees). Prior to joining Sheffield University she was Lecturer in Marketing at the University of Durham and a Teaching Assistant in Marketing at Nottingham University. Diana has published in both subject-specific and interdisciplinary journals such as the Journal of Business Ethics, Journal of Marketing Management, International Journal of Tourism

Research and Interface Focus. She has also contributed with a chapter to *Marketing Innovations for Sustainable Destinations*, edited by Fyall, A. et al. published in 2009.

**Babak Taheri** is a programme director in International Marketing Management at the School of Languages and Management, Heriot-Watt University. His main research interests are in the areas of consumer behaviour, heritage and tourism marketing management, and experiential marketing. Prior to joining Heriot-Watt University, he was Lecturer in Marketing at Durham University and a teaching fellow at Strathclyde Business School. His recent work has appeared in *Tourism Management*, *International Journal of Hospitality Management*, *Journal of Marketing Management*, *Consumption, Markets & Culture*, and *Advances in Consumer Research*. He is also Deputy Chair of the heritage marketing special interest group at the Academy of Marketing, UK.

**Clair McCowlen** is a Programme Manager with Global Action Plan, leading on environmental behaviour change programmes. Her background is in sustainable engineering and energy modelling. Clair joined Global Action Plan in 2009 and has delivered effective environmental change programmes to a wide range of organisations across different sectors.

## **Heritage tourism CSR and the role of employee environmental behaviour**

### **1.0 Introduction**

Research on Corporate Social Responsibility (CSR) has focussed on a range of issues, antecedents and consequences for CSR use. However, it is clear that with regards to CSR, one size does not fit all, and organisations in different industries will be motivated to be involved in CSR for differing reasons and face barriers to implementation (Coles, Fenclova & Dinan, 2013). Thus, research on CSR in one organisation is unlikely to be directly applicable across similar organisations, let alone across other industries (Dahlsrud, 2008). Therefore, research on CSR in industries other than tourism is unlikely to be applicable to tourism. However, it is generally accepted that CSR tourism research is at an undeveloped early stage (Coles et al., 2013) with a fragmented body of knowledge that is lagging behind mainstream CSR research (Ayuso, 2006) and that the study of sustainable ethics is lacking in the heritage tourism literature (Garrod & Fyall, 2000; Chhabra, 2009). Indeed, Garrod and Fyall (2000) note that very little assessment has been made of conditions to ensure the sustainability of heritage tourism products even though there needs to be an appropriate balance between the contemporary use of tourism assets and their conservation for future generations. It is, nevertheless, acknowledged that CSR is an innovative way to create value for society and tourism organisations (Starr, 2013; Manente, Minghett & Mingotto, 2014) to reinforce ties with community (Kasim, 2006), to engage with social and environmental issues (Henderson, 2007) and to use resources sustainably which has been identified as a threat to the heritage tourism industry in particular (Chhabra, 2009). Additionally, environmental protection and well-structured CSR strategies are core to environmental and socially responsible cultural tourism (Black, 2012; Starr, 2013; Manente et al., 2014), can help target the financial pressures experienced by heritage attractions which is expected to become more difficult and challenging (Garrod & Fyall, 2000) and build on the recognition of the close links between tourism and the environment (Butler, 1991). In addition, CSR practices can be key in preparing and protecting heritage tourism resources against the pressures of tourism and large visitor numbers (Butler, 1991).

Within both wider and tourism CSR, research has largely focused on institutional (e.g. laws, standards) and organisational (macro research on boards and management groups) aspects, while ignoring those aspects at the individual or micro level, such as the role of internal stakeholders (e.g. employees; Hansen, Dunford, Boss, Boss & Andermeier, 2011; Aguinas & Glavas, 2012; Chun, Shin, Choi & Kim, 2013). While tourism CSR research has explored the micro level in connection to tourists' opinions, the role of employee behaviours is largely unknown with only a few exceptions (Deery et al., 2007; Chou, 2014). This knowledge gap exists in spite of employees being the core target for behaviour change in CSR initiatives, particularly in the services industry due to the close relationship between employees and consumers (Coles et al., 2013; Chou, 2014) and the need within heritage tourism to "grasp where all stakeholders are 'coming from' and what values they bring to it" (Howard, 2003, p12). In addition, heritage sites can act as sustainable places, where employees and consumers work together to improve the environment and promote better lifestyles based on the suggestion that they have similar motivations of preserving and protecting heritage buildings (Swarbrooke, 1994; Howard, 2003; Poria, Butler & Airey, 2003).

This paper fills this gap by presenting the results of an environmental social marketing intervention implemented by Global Action Plan (GAP) among the employees of a large cultural heritage tourism organisation and is therefore motivated by the following research questions:

- What environmental corporate social responsibility issues do heritage tourism organisations face?
- What affect does an internal social marketing campaign in a heritage tourism organisation have on employees perceived satisfaction with current environmental behaviour and its antecedents (i.e. perceived potential to change, perceived personal responsibility, perceived information adequacy, perceived self-efficacy and motivations for environmental behaviour in the workplace)?
- Do socio-demographics and campaign awareness affect the antecedents of satisfaction with environmental behaviour before and after the intervention?

Based on these research questions, the contributions of this study are threefold: 1) it contributes to the extant literature by studying real world empirical data comprised of both self-

reported and actual behaviour of employees of a cultural heritage organisation; 2) examines the impact of a real social marketing campaign by measuring the antecedents of satisfaction with environmental behaviour (before and after the intervention); and 3) from a methodological view, it employs a mixed methods approach (using both interviews and questionnaire data) in order to understand these antecedents and the effects of an environmental social marketing intervention on environmental behaviour.

## **2.0 Literature review**

### ***2.1 Generic Corporate Social Responsibility (CSR)***

CSR can be defined as “context-specific organisational actions and policies that take into account stakeholders’ expectations and the triple bottom line of economic, social, and environmental performance” (Aguinis, 2011, p. 855). Drivers of CSR such as enhanced reputation (Coles et al., 2013), consumer pressure, cost savings (Ayuso, 2006) and management support (Kasim & Ismail, 2012) have been discussed alongside barriers to implementation such as lack of resources/understanding (Coles et al., 2013), organisational barriers (e.g., ingrained management) (Bohdanowicz, Zietntara & Novotna, 2011) and expenses (Frey & George, 2010). In particular, studies have focused on the business case for CSR (Carroll & Shabana, 2010; Lindgreen & Swaen, 2010), that is, the tangible and financial benefits which are expected to come from CSR involvement. This includes: reducing cost and risk, increased competitive advantage, as well as increased reputation with a growing focus on the link between CSR and corporate financial performance (CFP) (Lee, 2008). Research remains largely inconclusive with regards to a positive relationship between CSR and CFP (Lee, 2008) and this is especially the case for the service sector and small enterprises (Garay & Font, 2012).

### ***2.2 CSR in tourism***

Studies in tourism CSR, generally falling under the umbrella of sustainable tourism (Garrod & Fyall, 2000) have noted a complex and similar set of motivations and barriers as in generic CSR initiatives (Ayuso, 2006). With regards to the environmental element of CSR, the level and type of



research has increased significantly in the last decade with studies highlighting CSR features in tourism such as eco-tourism (Chiu, Lee & Chen, 2014), museums and heritage (Edwards, 2007), mass tourism (Weaver, 2014), tour operators and airlines industry (Dodds & Kuehnel, 2010; Coles, Fenclova & Dinana, 2011), leisure and sport (Salome, van Bottenburg & van den Heuvel, 2013) and destinations (Frey & George, 2010; Liu et al., 2014). Work exploring the marketing of tourism also notes a shift towards sustainability away from economic profit priorities (Jamrozy, 2007) and the linkages between CSR and CFP have also been studied within tourism. However, as in generic CSR, the results have been inconclusive (Inoue & Lee, 2011). 'Responsible environmental marketing' and 'community-based tourism', referring to the balancing of initiatives and communication in order to achieve sustainable competitive advantage (Lee, Jan & Yang, 2013; Starr, 2013) have also been considered, although little consistency has been shown across these studies. In addition, sustainable design and green building practices have been increasingly used in heritage buildings in order to reduce human impacts on the local environment and culture (Erkus-Ozturk & Eraydin, 2010; Starr, 2013). Nevertheless, without doubt, the largest focus within tourism has been in the accommodation sector (for example, Knowles, Macmillan, Palmer, Grabowski & Hashimoto, 1999; Ayuso, 2006; Bohdanowicz, 2007; Bohdanowicz et al., 2011; Tsai, Tsang & Cheng, 2012; Chou, 2014). This focus may be because hotels are suggested to produce higher than average consumption of energy and water than other commercial buildings and, therefore, have a larger environmental impact (Bohdanowicz et al., 2011).

Finally, a number of stakeholder groups have been examined with regards to environmental CSR within the tourism industry, with the most common being managers (Knowles et al., 1999; Ayuso, 2006; Frey & George 2010; Dief & Font, 2010) and tourists (Lee et al., 2013; Ramkissoon, Smith & Weiler, 2013; Chiu et al., 2014). A small number of studies explore the perspectives of the community (Liu et al., 2014) and multiple stakeholders, such as government and park authorities (Imran, Alam & Beaumont, 2014). Even though heritage has sometimes been treated as a static commodity of tourism, its associated values are frequently changing (Hall & McArthur, 1998), which is why many heritage management issues are caused by a dearth of interaction among stakeholders (Aas, Ladkin & Fletcher, 2005). Further research is required to expand research in heritage tourism

CSR reaching beyond managers and secondary data, and accomplishing basic empirical research including follow ups, longitudinal and cross sectional designs across a range of stakeholders (Dwyer & Sheldon, 2007; Coles et al., 2013).

### ***2.3 Employee environmental behaviour***

Organisational citizenship behaviours (OCBs) which “represent constructive or cooperative gestures that are neither mandatory in-role behaviors nor directly or contractually compensated by formal reward systems” play an important role in encouraging pro-environmental behaviour from employees (Organ & Konovsky, 1989, p. 157). Research has examined OCBs both generally in terms of broad aspects (Lin, Lyau, Tsai, Chen & Chiu, 2010; Hansen et al., 2011) and, specifically, in terms of environmental behaviour as organisational citizenship behaviour for the environment (OCBE) (Boiral & Paillé, 2012) or as employees’ environmentally-responsible, or green OCBs (Smith & O’Sullivan, 2012).

While OCBs focusing on employee environmental behaviours have generally been studied in the generic CSR literature, to our knowledge, this has not been the case within tourism CSR. However, internal initiatives to encourage such behaviour, generally through some form of social marketing, have increased in recent years as tourism organisations strive to be more socially responsible to compete for consumers or respond to stakeholders’ expectations (Hansen et al., 2011). Nevertheless, many organisations find this difficult to achieve (Lindgreen & Swaen, 2010) which might be due to the specific role of employees in comparison to the general population (Carrico & Riemer, 2011). Numerous differences exist regarding the motivation for employees’ environmental behaviour (Andersson, Shivarajan & Blau, 2005) which were outlined in early studies of employee environmental behaviour which compare directly with individual’s household environmental behaviour. In general, employees do not have the same financial interest in the workplace as they do at home, are not typically concerned with their energy usage and have little context for how much energy they use because devices are often shared by multiple employees (Siero, Bakker, Dekker & van den Burg, 1996; Carrico & Riemer, 2011). However, Carrico and Riemer (2011) argue that

employees are a captive audience and thus can be targeted through low-costs means, such as e-mails and e-newsletters, and these barriers should not be difficult to overcome.

Prior research has focused on a broad range of individual and organisational factors that affect employee environmental behaviour and the success of internal social marketing interventions. Individual factors which have been studied include attitudes and beliefs (Jones, 2010; Chun, Shin, Choi & Kim, 2013; Manika, Wells, Gregory-Smith & Gentry, 2014), norms (Scherbaum, Popovich & Finlinson, 2008; Carrico & Riemer, 2011), self-efficacy (Smith & O'Sullivan, 2012), habit (Siero et al., 1996), motivation (Lee, De Young & Marans, 1995; Tudor, Barr & Gilg, 2008), knowledge (Siero et al., 1984) and socio-demographics (Wehrmeyer & McNeil, 2000). The most comprehensive study of employee environmental behaviour within the tourism literature focused on individual (individual environmental beliefs, personal environmental norms, self-reported environmental behaviour) and organisational variables (green organisational climate) as well as demographics to explain employee behaviour (Chou, 2014). Chou (2014) found that personal environmental norms had the strongest effect on employees' environmental behaviours. There is clearly scope to further examine this area and to explore whether the elements found to affect employee behaviour in general industry also affect the behaviour of employees within tourism and cultural heritage organisations. Therefore, this paper contributes directly to this limited literature at the micro/employee level of heritage tourism CSR research. The paper also focuses on a number of individual variables and outcomes and their effect on employees' environmental behaviour.

## ***2.4 Employee satisfaction with environmental behaviour and its antecedents***

### *2.4.1 Perceived current satisfaction with environmental behaviour*

Satisfaction with behaviour has been studied very little in the employee environmental literature. However, satisfaction with behaviour is important because it is likely that employees, who are satisfied with the level/type of their environmental behaviour, will not change their behaviour, while those who are not satisfied may be inclined to do more. Satisfaction is also likely to give some indication of employees' state of readiness and receptivity with regards to environmental campaigns. Gregory-Smith, Wells, Manika and Graham (in press) found that employees' satisfaction with the

level of impact on the environment are negatively correlated with general environmentally friendly attitudes, noting that those who have stronger environmental attitudes, consider that they have a stronger negative impact on the environment and thus, are less satisfied with their level of impact on the environment. In addition, research suggests that if employees have strong pro-environmental attitudes they will report higher levels of pro-environmental behaviour (Manika et al., 2014).

#### 2.4.2 *Perceived self-efficacy*

Employees' self-efficacy in environmental behaviours has been discussed infrequently within the literature. Lo, Peters and Kok (2012) suggest that self-efficacy is related to whether one perceives that they have the necessary resources, knowledge or skills to perform the desired behaviour. They suggest that lack of knowledge about what to recycle and perceived time constraints showed a weak negative correlation with waste management behaviour and that forgetfulness was a reason for failing to conserve energy. Smith and O'Sullivan (2012) stress that it is important to increase employees' self-efficacy for them to be able to fulfil the behavioural objectives given to them. However, overall self-efficacy has not been studied within employees' environmental behaviour, although Manika et al. (2014) highlight it as a variable that should be included in future studies. The more confidence employees have that their actions are competently done and have clear environmental purpose, the more likely they are to be satisfied with their environmental behaviour (De Young, 1996).

Thus, it is hypothesised that:

H1: Perceived self-efficacy will have a significant and positive influence on employees' perceived satisfaction with current environmental behaviour.

#### 2.4.3 *Perceived potential to change*

Perceived potential to change behaviour will affect the satisfaction of employees with their behaviour and is related, as above, to knowledge and awareness, as well as to barriers. Research suggests a numbers of barriers as to why CSR initiatives are not incorporated into both general and tourism enterprises. These include: lack of resources and understanding (Coles et al., 2013), technical barriers, personal attitudes, top management organisational barriers, quality of communication and

administrative heritage (Bohdanowicz et al., 2011), weakly enforced environmental laws and regulations, scarce and intermittent green supply chain, non-existent trade pressure and poor tourist and community demand (Kasim & Ismail, 2012) and expense (Frey & George, 2010). Therefore, the more potential to change their environmental behaviour employees see, the less satisfied with their behaviour they will be, and where there are many barriers there is likely to be much potential to change behaviour. This relationship has not been specifically tested, or even hypothesised previously in the extant literature although links between satisfaction and environmental behaviour have been made (De Young, 1996).

Thus it is hypothesised that:

H2: Perceived potential to change will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.

#### *2.4.4 Motivations for environmental workplace behaviour*

In both general and tourism specific CSR literatures, a wide range of drivers and facilitators for CSR are often noted including enhancements to reputation (Coles et al., 2013), public and/or official recognition of environmental commitment, envisioned cost savings, pressure of customers and tour operators, personal awareness of managers (Kasim & Ismail, 2012), potential improvement of internal management system (Ayuso, 2006), employee connectedness and trade pressure (Kasim & Ismail, 2012) and competitive advantage leading to profit. However, further research is required to identify and understand drivers and facilitators of CSR in the tourism industry, particularly at the micro level of employees (Dwyer & Sheldon, 2007). The more important certain motivations are to the employee (e.g. to avoid waste, to reduce energy etc.), the more likely that he/she will be dissatisfied with individual behaviour. This is because the employee will constantly aim to act in accordance with all these motivations but certain individual or organisational barriers (as highlighted in the interviews) might impede them in behaving in an environmentally friendly manner in all respects. In other words, the less motivated employees are, the less concerned and less unlikely to be dissatisfied with their behaviour they will be as they will be complacent about their behaviour. It must

be noted that this relationship has been overlooked in past research and has not been previously tested to the authors' knowledge.

Thus, it is hypothesised that:

H3: Motivations for environmental behaviour will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.

#### 2.4.5 *Perceived information adequacy*

Information adequacy refers to the quality and usefulness of feedback and information provided to employees. Feedback influences behaviour by linking specific behaviours to the achievement of desired outcomes (Kluger & DeNisi, 1996). For example, by making salient the relationship between behaviours and outcomes, feedback promotes residential energy conservation, particularly when the feedback closely follows the behaviour and is of a high quality such as using home energy meters or product-integrated feedback displays (Carrico & Reimer, 2011). When employees received feedback that compared their behaviour to the behaviour of other groups, the energy savings were greater than those achieved in a basic behavioural change programme (Siero et al., 1996). They note this behavioural change took place with hardly any changes in attitudes or intentions. When group feedback is coupled with social comparison, it appears to have a larger effect when comparisons are made with other organisational subgroups rather than general others (Lo et al, 2012). Feedback has also been linked with peer education to encourage employees to reduce energy use (Carrico & Riemer, 2011).

Feedback can also be used to overcome a lack of organisational communication (Lo et al, 2012). This is notable given the importance of internal awareness raising campaigns and active championing by green champions/teams as well as top management in encouraging environmental behaviour in the workplace (Andersson et al., 2005; Zibarras & Ballinger, 2011).

Thus, it is hypothesised that:

H4: Perceived information adequacy will have a significant and positive influence on employees' perceived satisfaction with current environmental behaviour.

#### 2.4.6 *Perceived personal responsibility*

A sense of personal responsibility for environmental issues has long been linked with pro-environmental behaviour (Dunlap, Van Liere, Mertig & Jones, 1978). Building on the work of Stern, Dietz, Abel, Guagnano and Kalof (1999), Wells, Ponting and Peattie (2011) examined different responsibility orientations and their relationship with environmentally friendly behaviour. They found that where consumers ascribe responsibility for *causing* climate change to someone (including themselves) their general environmental responsiveness is higher. In comparison, general environmental responsiveness is lower if the participant ascribed responsibility for *tackling* climate change to someone or something (including themselves). Therefore, if employees perceive themselves to be responsible for tackling the environmental behaviour of the organisation, their environmental responsiveness would be lower and, thus, they may be less satisfied with their environmental behaviour.

Thus, it is hypothesised that:

H5: Perceived personal responsibility will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.

#### 2.4.7 *Campaign awareness*

In the employee environmental behaviour literature, few studies have looked at employees' awareness of or involvement with environmental campaigns/interventions largely because few papers have studied the effect of an intervention in the workplace (Lo et al., 2012) or used a time series analysis. The few studies that have included a study of an intervention are: an intervention of recycling behaviour (Ludwig, Gray, & Rowell, 1998), a feedback intervention (Carrico & Riemer, 2011) and an intervention with office paper recycling (Brothers, Krantz, & McClannahan, 1994). Ludwig, Gray and Rowell's (1998) intervention increased recycling from 35% to 71% , Carrico and Riemer's (2011) intervention resulted in a 4% reduction in energy use and Brothers, Krantz and

McClannahan’s (1994) intervention increased paper recycling to 85%. Gregory-Smith et al. (in press) found that self-reported behaviour was lower after an intervention and suggested that this may be because, after the intervention, the employees became more critical of their behaviour. Indeed, it is possible that, before the intervention, individuals may have over-rated their environmental behaviour and reported higher green behaviour than was actually taking place. However, these studies measured only the effect of the intervention and did not measure awareness of the campaign.

Thus it is hypothesised that:

H6: Campaign awareness will have a significant and negative influence on employees’ perceived satisfaction with current environmental behaviour after the intervention.

H7: The intervention will generate significant differences between the pre-intervention and post-intervention group in relation to (a) perceived self-efficacy, (b) perceived potential to change, (c) motivations, (d) perceived information adequacy, (e) perceived personal responsibility and (f) perceived current satisfaction with environmental behaviour.

The considered variables and their relationships, as per the above hypotheses, are included in

Figure 1.

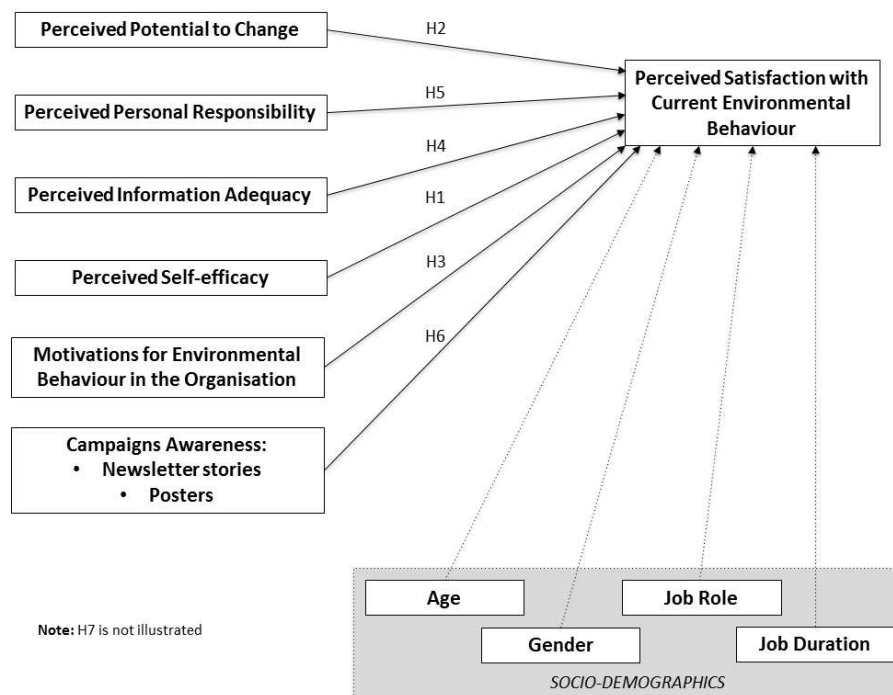


Figure 1: Conceptual framework



### **3.0 Methodology**

#### ***3.1 Data collection***

We adopted a two-stage mixed methods, sequential explanatory design approach combining quantitative and qualitative data (Teddlie & Tashakkori, 2009; Alexander, MacLaren, O’Gorman & Taheri, 2012) allowing the collection of diverse perspectives on the research topic. In doing so, a series of semi-structured interviews were used as the initial mode of enquiry, followed by a two-stage questionnaire. The data used in this study were drawn from a project carried out in a large UK cultural heritage tourism organisation by Global Action Plan (GAP), a leading UK environmental behaviour change charity (<http://www.globalactionplan.org.uk/>).

The data was collected on multiple sites (4 sites and the head office) of the organisation between summer 2013 and spring 2014. The interviews and questionnaires were neither originally designed, nor data collected with specific analyses in mind, which imposes some limitations on the dataset and available analyses. However, this paper uses real data that was collected in a non-laboratory/field environment reducing some of the limitations of data collected primarily for academic research, including the lack of realism, artificiality, and generalisability (see Schram, 2005; Levitt & List, 2007). More importantly, energy data in aggregate form was collected in order to assess changes in energy consumption before and after the intervention.

#### ***3.2 Qualitative phase***

Both individual and group interviews were completed with employees, managers, volunteers, seasonal staff and visitors/tourists across the four sites and head office. 68 separate respondents were questioned across both individual and group interviews, with interviews ranging from short intercept style interviews to longer depth interviews. 12 individual and group interviews took place at the head office, 8 at site one, 8 at site two, 10 at site three and 13 at site four resulting in 51 individual and group interview sessions. The interviews with employees covered a range of different roles within the properties and head office from tree surgeon to shop volunteer, and reflected both managerial and visitor facing roles.

The interviews were audio-taped and transcribed verbatim. The qualitative analysis was guided by thematic analysis (Braun & Clarke, 2006) and participants were encouraged to explain their views and, therefore, the themes were driven from their narrative (Jafari, Taheri & vom Lehn, 2013). Theoretical coding was used to explore relevant themes from the literature, while thematic analysis was used to identify new themes that have not been previously discussed within the literature. The thematic analysis process was fluid as the codes were modified or altered as ideas developed and the results of the coding process along with sample coded interviews transcripts were shared between the researchers; enhancing the validity of the qualitative data (Jafari et al., 2013).

### ***3.3 Quantitative phase***

237 employees took part in the pre-intervention survey and 96 employees in the post-intervention survey. For both the pre-intervention (Pre) and post-intervention (Post) surveys the same data was collected from the head office of the organisation (Pre: n=162, Post: n=44) and across four of the organisation's sites (Site 1 -- Pre: n=18, Post: n=9; Site 2 -- Pre: n=10, Post: n=5; Site 3 -- Pre: n=28, Post: n=14; Site 4 -- Pre: n=19, Post: n=24). All surveys were administered electronically with emails being sent to all employees and were run anonymously to encourage participation, reduce social desirability bias (Richman, Kiesler, Weisband, & Drasgow, 1999) and comply with ethical research conduct.

#### ***3.3.1 Intervention***

The choice of intervention was based on the results of both the pre-intervention survey and interviews. The intervention involved introducing a 'Sustainability Toolkit' into each site which could be used for employees to determine their own sustainability priorities and plans to tackle these issues. The Sustainability Toolkit pack elements analysed here are posters and newsletters. The toolkit was used across a three-week period (varying by site but all interventions took place in November and December 2013/January 2014) with week one focusing on lighting, week two on heating, and week three on waste.

### 3.3.2 Measures, reliability and data analysis

Table 1 summarises the variables used in the pre- and post-intervention, along with Cronbach's Alpha values. All multi-item scales had a Cronbach's Alpha equal to or above .70, signifying good reliability (Hair et al., 2010).

Because the questionnaires have been designed by the charity, not all the variables were measured as multi-item scales. However, this approach is increasingly accepted in the academic literature and is appropriate under certain conditions (Fuchs & Diamantopoulos, 2009; Hoepfner, Kelly, Urbanoski, & Slaymaker, 2011; Mende, Bolton, & Bitner, 2013). Moreover, single-item measures are likely to be more appropriate for experiments situated in organisations, given the individuals'/employees' willingness, time restrictions or lack of appropriate incentives to motivate filling in extensive questionnaires (Biner & Kidd, 1994; Deutskens, De Ruyter, Wetzels & Oosterveld, 2004).

**Table 1**  
Variables used in the pre- and post-intervention questionnaires

Variables	Cronbach's Alpha
<b>Socio-demographics</b>	
Age	n/a
Gender	n/a
Job role	n/a
Job duration	n/a
<b>Perceived self-efficacy</b>	
How confident are you to take action in the following ways: Turning off lights where not needed	.76 (pre); .80 (post)
How confident are you to take action in the following ways: Turning equipment off at the end of the day	
How confident are you to take action in the following ways: Turning equipment on only when it is needed	
How confident are you to take action in the following ways: Recycling things like paper and plastic around the site	
<b>Motivations for environmental workplace behaviour</b>	
How important do you feel each of the following reasons is to save energy? - Reduce our running costs	.70 (pre); .80 (post)
How important do you feel each of the following reasons is to save energy? - To make the temperature around the site more comfortable	
How important do you feel each of the following reasons is to save energy? - To provide a better experience for visitors	
How important do you feel each of the following reasons is to save energy? - Our organisation has a responsibility to look after the environment	
How important do you feel each of the following reasons is to save energy? - Because wasting anything (including energy) should be avoided	
How important do you feel each of the following reasons is to save energy? - Because saving energy saves	

money, and that's easier than attracting more visitors	
<b>Perceived potential to change</b>	n/a
There are ways to cut energy use and reduce waste at this site	
<b>Perceived personal responsibility</b>	n/a
It is my responsibility to help this site cut energy use and reduce waste	
<b>Perceived information adequacy</b>	n/a
I receive enough information about how this site can reduce energy use and cut waste	
<b>Perceived current satisfaction with workplace behaviour</b>	n/a
Which of these best describes how you feel about your current energy use and waste disposal on site?	
<b>Campaign awareness<sup>1</sup></b>	n/a
Have you seen any of the following around your site:	
Newsletter stories about energy and waste	
Posters about energy saving actions	

---

<sup>1</sup> Campaign awareness was only measured in the post-intervention surveys. Because of the use of two different campaigns (newsletter stories and posters), a composite variable of campaign awareness was not created, to allow the exploration of the individual effects of each campaign on the variables investigated in this paper.

Given that the scales were not originally designed with this analysis in mind it was unlikely that such scales would be normally distributed. However, “an assessment of univariate and multivariate normality was made, and the possibility of outliers was examined” (Xu & Fox, 2014, p. 147). Z-scores for skewness and kurtosis were calculated for each questionnaire item with SPSS (version 22) and were checked against acceptable values, which are between -3 to +3 (Field, 2005; Mardia, 1970). Results can be seen in Table 2, along with their means, standard deviations and sample size.

In the pre-intervention survey, only two questionnaire items (out of a 3-item scale measuring perceived self-efficacy) exceeded the acceptable values for Kurtosis. However, the pre-intervention sample size was greater than 200 participants (i.e.  $n_1 = 237$ ) and, in this case, as per Hair et al. (2010), significant departures of normality do not have a substantial impact on results. Therefore, the pre-intervention data results do not suffer from major limitations due to the sample size. In the post-intervention surveys, some questionnaire items exceeded or were below acceptable values for skewness and/or kurtosis (see Table 2). This sample size was less than 200 participants ( $n_2 = 96$ ) because a number of participants dropped out during the study. The drop in the sample size from pre- to post-intervention survey was because the study used data gathered during an actual workplace longitudinal environmental behaviour study. Thus, the data was collected in a non-laboratory/field environment and this has limited the number of participants and their availability to take part in the

study. As noted earlier however, a non-laboratory/field environment also has its advantages and thus, we believe this was important data to explore, even though departures from normality may impact the results of the post-intervention survey.

We consider that the paper has valuable contributions to theory and practice, and that the abovementioned limitation is balanced by the use of complementary qualitative data and measurements of actual behavior (which will be presented in the next sections). The interview findings from 68 participants confirm some of the quantitative findings and offer additional deeper insights. External validity was also addressed by linking both interview and questionnaire findings to the literature in order to discover whether similar/dissimilar results have been obtained (Teddlie & Tashakkori, 2009). In addition, the present research also included measurements of actual environmental workplace behaviour, in terms of pre- and post-intervention energy data comparison. This measurement of behaviour improves the reliability of the study, given that discordance between self-reported and actual measures is noted in past environmental research (Chao & Lam, 2011; Huffman, Van Der Werff, Henning & Watrous-Rodriguez, 2014). This also helps to reduce the issue of common method variance (CMV), which is highlighted as an issue in cross-sectional survey research (Rindfleisch, Malter, Ganesan, & Moorman, 2008). Moreover, the longitudinal nature of this study has enabled it to overcome some sources of common method biases, such as the measurement context effects (Podsakoff, MacKenzie & Podsakoff, 2003).

To examine the aforementioned hypotheses, two linear regression analyses were conducted, one for the pre-intervention group and one for the post-intervention group. For both groups, the following independent variables: age, gender, job duration, job type, perceived personal responsibility, perceived potential to change, perceived information adequacy, perceived self-efficacy, and motivations, were regressed on perceived satisfaction with current behaviour. After examining whether or not the hypotheses were supported for each group (pre and post), a series of ANOVAs, *t*-tests and chi-squares were used to examine differences between the pre- and post-intervention groups in terms of all variables. Their inter-correlations for both groups were also examined.

**Table 2:** Sample sizes, means, standard deviations, skewness and kurtosis statistics for questionnaire items

<b>Variables</b>	<b>Intervention</b>	<b>N</b>	<b>M</b>	<b>SD</b>	<b>Skewness</b>	<b>Kurtosis</b>
<b>Age</b>	<i>Pre</i>	237	n/a	n/a	n/a	n/a
	<i>Post</i>	95	n/a	n/a	n/a	n/a
<b>Gender</b>	<i>Pre</i>	236	n/a	n/a	n/a	n/a
	<i>Post</i>	95	n/a	n/a	n/a	n/a
<b>Job role</b>	<i>Pre</i>	234	n/a	n/a	n/a	n/a
	<i>Post</i>	96	n/a	n/a	n/a	n/a
<b>Job duration</b>	<i>Pre</i>	231	n/a	n/a	n/a	n/a
	<i>Post</i>	96	n/a	n/a	n/a	n/a
<b>Perceived self-efficacy 1</b> -How confident are you to take action in the following ways: Turning off lights where not needed	<i>Pre</i>	233	2.75	.53	-2.03	3.22
	<i>Post</i>	96	2.80	.47	-2.40	5.23
<b>Perceived self-efficacy 2</b> -How confident are you to take action in the following ways: Turning equipment off at the end of the day	<i>Pre</i>	233	2.78	.47	-2.04	3.45
	<i>Post</i>	95	2.85	.41	-2.90	8.29
<b>Perceived self-efficacy 3</b> -How confident are you to take action in the following ways: Turning equipment on only when it is needed	<i>Pre</i>	232	2.67	.53	-1.34	.84
	<i>Post</i>	96	2.76	.51	-2.11	3.71
<b>Perceived self-efficacy 4</b> -How confident are you to take action in the following ways: Recycling things like paper and plastic around the site	<i>Pre</i>	234	2.60	.61	-1.27	.54
	<i>Post</i>	96	2.67	.61	-1.66	1.64
<b>Motivations for environmental workplace behaviour 1</b> - How important do you feel each of the following reasons is to save energy? - Reduce our running costs	<i>Pre</i>	235	4.70	.49	-1.50	2.64
	<i>Post</i>	96	4.82	.45	-3.32	14.63
<b>Motivations for environmental workplace behaviour 2</b> - How important do you feel each of the following reasons is to save energy? - To make the temperature around the site more comfortable	<i>Pre</i>	234	4.09	.82	-.63	-.19
	<i>Post</i>	95	4.21	.88	-.99	.28
<b>Motivations for environmental workplace behaviour 3</b> - How important do you feel each of the following reasons is to save energy? - To provide a better experience for visitors	<i>Pre</i>	235	3.95	.99	-.85	.33
	<i>Post</i>	95	4.25	.83	-1.06	.69
<b>Motivations for environmental workplace behaviour 4</b> - How important do you feel each of the following reasons is to save energy? – Our organisation has a responsibility to look after the environment	<i>Pre</i>	236	4.76	.42	-1.24	-.46
	<i>Post</i>	96	4.84	.46	-3.71	16.37
<b>Motivations for environmental workplace behaviour 5</b> - How important do you feel each of the following reasons is to save energy? - Because wasting anything (including energy) should be avoided	<i>Pre</i>	236	4.71	.49	-1.34	.74
	<i>Post</i>	96	4.72	.51	-2.13	6.54
<b>Motivations for environmental workplace behaviour 6</b> - How important do you feel each of the following reasons is to save energy? - Because saving energy saves money, and that’s easier than attracting more visitors	<i>Pre</i>	234	3.74	1.0	-.48	-.21
	<i>Post</i>	94	4.01	1.0	-.68	-.35
<b>Perceived potential to change</b> - There are ways to cut energy use and reduce waste at this site	<i>Pre</i>	235	4.22	.65	-.448	.09
	<i>Post</i>	96	4.41	.57	-.65	-1.50
<b>Perceived personal responsibility</b> - It is my responsibility to help this site cut energy use and reduce waste	<i>Pre</i>	235	4.39	.54	-.257	.12
	<i>Post</i>	95	4.47	.65	-1.33	2.64
<b>Perceived information adequacy</b> - I receive enough information about how this site can reduce energy and cut waste	<i>Pre</i>	235	3.22	.91	-.032	-.98
	<i>Post</i>	95	3.75	.88	-.69	-.12
<b>Perceived current satisfaction with workplace behaviour</b> - Which of these best describes how you feel about your current energy use and waste disposal on site?	<i>Pre</i>	232	2.16	.66	-.186	-.76
	<i>Post</i>	88	2.13	.69	-.17	-.87
<b>Campaign awareness</b> - newsletter stories about energy and waste.	<i>Pre</i>	n/a	n/a	n/a	n/a	n/a
	<i>Post</i>	96	.76	.43	-1.24	-.47
<b>Campaign awareness</b> - posters about energy saving actions	<i>Pre</i>	n/a	n/a	n/a	n/a	n/a
	<i>Post</i>	90	.67	.47	-.72	-1.52

## **4.0 Results and discussion**

### **4.1 *Qualitative analysis***

While a number of themes were identified in the qualitative analysis, only those relevant to the literature, discussed above, are expanded upon in this section.

#### *4.1.1 Perceived current satisfaction with workplace behaviour*

While there were a number of respondents who noted that improvements could be made, a large number of respondents felt they were satisfied with their behaviour and that they were doing all they could:

“In our area I don’t think we could really do anymore.... I can’t see that we actually waste anything” (Shop Manager, Site 4)

#### *4.1.2 Self-efficacy*

As noted previously, self-efficacy is related to the individuals’ belief that they have the necessary resources, knowledge or skills to perform the desired behaviours. Worryingly, respondents showed a basic lack of awareness with very insular knowledge and many respondents knowing very little about their own site (beyond their own department) or about the organisation’s policies:

“I’m basically in my own bubble I don’t really get to know about these things” (Kitchen Staff, Site 1);

“I don’t know because we don’t have a lot to do with any other part, we are self-contained really” (Bookshop Volunteer, Site 1).

There is also a significant amount of uncertainty of what is the right way to deal with or solve an issue, and respondents did not display confidence in their behaviour:

“I don’t touch it; I wouldn’t know which button to press” (Garden Volunteer, Site 2)

It is this lack of awareness and knowledge, coupled with the employees’ limited satisfaction with their behaviour that led to the development of the sustainability toolkit intervention as it was felt that this would not only provide knowledge but also engage individual employees to find out the information

for themselves and provide them with resources to do this. It was hoped that this would increase the respondents' self-efficacy, reflecting the suggestion made by Smith and O'Sullivan (2012).

#### *4.1.3 Perceived potential to change*

Perceived potential to change appears to be linked to a number of the other variables. For those respondents who were satisfied with their behaviour it is likely that they did not see there was a need to change and therefore did not question that the potential was there:

“If it ain't broke don't fix it even if it is going to do some good...” (Gardeners, Site 1).

Many felt that there was potential and could articulate it:

“I think we should harness water at the lake, a corkscrew system to generate electricity”  
(Gardeners, Site 1)

but those who did not feel there was potential, often reported barriers to their ability to change.

A range of barriers to green practices were highlighted. Those reported were similar to those highlighted in the generic CSR and tourism CSR literatures including lack of understanding (Coles et al., 2013; Bohdanowicz et al., 2011), but in addition other barriers (not reported in the CSR literature) were also of importance. This included technical, infrastructure barriers and other priorities. Technical barriers included food not being suitable for composting, all electric properties with no gas supply and working efficiency of equipment:

“I don't tend to turn my laptop off during the day...it takes... time to faff around when I come back to my desk...I haven't got the time it would take to log in...we don't have the fastest kit...I leave that on all day once it's on, it's on” (Operations Manager, Head office)

In terms of infrastructure, respondents reported issues with regards bin size and more complex barriers related to the property ages and types:



“It’s just such an old building ... no matter what heating you do in there, you’re never going to get it warm are you?” (Kitchen Staff, Site 1)

The respondents went beyond those barriers reported in the literature and did not report so frequently the issue of expense as a barrier (Frey & George, 2010) which is perhaps related to the fact that a wider group of employees rather than just managers were interviewed and it was consistently reported as a motivator rather than a barrier.

#### *4.1.4 Motivations for environmental workplace behaviour*

By far, the most reported driver and facilitator for environmental behaviour in the organisation was cost saving often based on the idea of improved efficiency:

“If they saved money on energy, then they could actually spend the money on things that need to be done” (Seasonal Reception Staff, Site 1)

Other motivators included health and safety:

“The advantage for us is they don’t emit ultraviolet light which is the most damaging part of the spectrum...reduced load on the electrical circuit of the house is a bonus because of the reduced fire risk” (Building Manage, Site 1)

and cost savings via reduced maintenance and conservation (linking to the financial pressures felt by heritage tourism (Garrod & Fyall, 2000)). Respondents did not, however, report motivators such as enhanced reputation and consumer pressure as would be expected from the literature (Ayuso, 2006; Coles et al., 2013), which again may be related to the fact that employees, in addition to managers, were included.

#### *4.1.5 Perceived information adequacy*

The respondents mentioned some monitoring systems were in place that allowed feedback of energy usage, humidity etc.:

“We have...a hand held monitoring system...you’ll see...boxes with white containers on them... that constantly monitors temperature and humidity and... reports back” (Building Manager, Site 1)

but there were also problems related to the systems:

“We’d been looking at a series of graphs of all our energy meters ...we acknowledge we still don’t understand our meters and what’s telling us what” (Various Staff, Site 1).

There was also a division between respondents who felt they were getting feedback about energy usage:

“We have a weekly Tuesday meeting and the energy efficiency scores when they’re out are given at those meetings” (Office Staff, Site 4)

and those who did not (“We’re not given any figures at all you know”(Joiner, Site 2)) which suggests different practices across the organisation. There was also the acknowledgement that because of meter placing and department layouts, specific feedback was difficult to produce. A number of respondents felt that feedback regarding energy use would be motivating:

“Sometimes a statistic can shock cos it shows how much were using... the fact that I heard that we were the second highest [site in terms of energy consumption], that made me go ‘Ooop!’”(Day Manager, Site 4).

This quotation also suggests that comparison of groups within the organisation, in terms of their environmental behaviour, might have an increased effect on behaviour change as suggested by the literature (Siero et al., 1996), although it should be noted that many respondents did not like the idea of competition between sites largely because they viewed the sites as being very different (“The difficulty is...sites... can be so different...that sometimes having a bit of competition could be quite demoralising really for certain properties” (Day Manager, Site 4)). The qualitative data suggested that feedback is motivating the staff (consistent with Carrico & Riemer, 2011) and that it should be detailed, accurate and clear to motivate the employees.

#### 4.1.6 *Perceived personal responsibility*

A number of respondents stated that they did not feel personally responsible for the behaviours being targeted, often stating that someone else (normally a manager) is responsible:

“We’ve got no authority to alter them or change them or anything like that” (Site 1, Gardener)

but when questioned further it was clear that although the manager was ultimately responsible the individuals were responsible for changing settings and the day to day behaviours:

“If our managers in then he says the heating ought to be on.... but if any of us say it’s cold and damp and it’s smelly in here then we say well we’ll put the heating on” (Site 1, Bookshop Volunteer)

suggesting that while individuals are personally responsible, they do not report this.

## 4.2 *Quantitative analysis*

### 4.2.1 *Characteristics of the pre and post-intervention: Chi-squares and t-tests*

Chi-squares and independent samples *t*-tests showed that there were no significant differences among the pre-intervention (N=237) and post-intervention groups (N=96) in terms of gender ( $\chi^2_{(1)}=0.00$ ,  $p>.05$ ), age ( $t_{(330)}=-1.81$ ,  $p>.05$ ) and job duration ( $t_{(325)}=-.64$ ,  $p>.05$ ). These analyses were carried out to ensure that extraneous variables have the same effect on employees’ perceptions, motivations and satisfaction with behaviour (e.g. Vanhamme, Lindgreen, Reast, & van Popering, 2012; Kwok & Uncles, 2005) and ensured that the potential differences in individual variables between the employees belonging to the pre and post-intervention groups were not due to the influence of individual/demographic variables. These analyses also demonstrated that the two groups are “comparable in terms of these variables that are likely to be related to the dependent variable in the study” (Rubin & Babbie, 2011, p. 260). However, the pre and post-intervention groups did differ in terms of the type of employment (job role) within the tourism organisation, with significantly more volunteers, seasonal workers and contractors included in the post-intervention sample ( $\chi^2_{(3)}=10.14$ ,  $p<.05$ ).

#### 4.2.2 Correlations and regressions for pre and post-intervention groups

Before testing the hypotheses, the inter-correlations for both the pre- and post-intervention groups were calculated (Table 3). None of the inter-correlations were above .85 therefore the data indicates discriminant validity (Hair et al., 2010). VIF/Tolerance levels were also examined and indicated no multicollinearity problems i.e. VIFs are below the common cut off of 5 (Hair et al., 2010) (Table 4).

In order to test hypotheses H1-H5, regressions with perceived satisfaction with current environmental behaviour as the dependent variable, were conducted for the pre and post-intervention groups (Table 4). The independent variables accounted for 16% of the variance in perceived satisfaction with current environmental behaviour for the pre-intervention group; and for 10% of the variance for the post-intervention group. Perceived potential to change (negative relationship – H2) and perceived information adequacy (positive relationship – H4) were the only significantly associated independent variables with perceived satisfaction with current environmental behaviour for the pre-intervention group. This is consistent with the previous studies (Andersson et al., 2005; Zibarras & Ballinger, 2011). Alternatively, for the post-intervention group, only motivations for environmental behaviour were negatively and significantly related to perceived satisfaction with current environmental behaviour (H3).

**Table 3:** Correlations for Pre- and Post-intervention groups

Pre-intervention group correlations										
Age	1									
Gender	-.14*	1								
Job Role	.17**	-.16*	1							
Job Duration	.26**	-.17**	-.15*	1						
Perceived Potential to Change	.08	-.00	.01	.03	1					
Perceived Personal Responsibility	.12	-.09	.05	.07	.52**	1				
Perceived information Adequacy	.01	-.04	.17**	-.02	-.04	.10	1			
Perceived Satisfaction with Current Environmental Behaviour	.00	.03	.17*	-.09	-.31**	-.22**	.21**	1		
Perceived Self-efficacy	.04	-.08	.01	.01	.02	.06	.07	.14*	1	
Motivations	.14*	-.03	.08	.05	.25**	.36**	.19**	-.17*	-.01	1
Post-intervention group correlations										
Age	1									
Gender	-.05	1								
Job Role	.18	-.14	1							
Job Duration	.31**	-.18	-.03	1						
Perceived Potential to Change	-.11	.12	.10	-.17	1					
Perceived Personal Responsibility	.15	.03	.03	-.13	.57**	1				
Perceived information Adequacy	.12	-.08	-.05	.03	.37**	.41**	1			

Perceived Satisfaction with Current Environmental Behaviour	.01	-.26*	.09	.06	-.11	-.17	.16	1	
Perceived Self-efficacy	.07	-.24*	.01	.08	.19	.21*	.18	.11	1
Motivations	.18	.02	.16	-.04	.47**	.41**	.12	-.26*	.24*

Note: \* p < .05; \*\* p < .01

**Table 4:** Perceived Satisfaction with Current Environmental Behaviour Regressions for Pre- and Post-intervention groups

Pre-intervention group regression results $R^2=.16$ , $F(9,199)=5.35$ , $p<.01$						
	Std. Error	Beta	t	Tolerance	VIF	
Age	.06	.04	.53	.87	1.14	
Gender	.09	.09	1.29	.90	1.11	
Job Role	.12	.13	1.91	.87	1.14	
Job Duration	.05	-.06	-.88	.87	1.13	
Perceived Potential to Change	.07	-.22**	-2.84	.67	1.47	
Perceived Personal Responsibility	.09	-.09	-1.17	.61	1.62	
Perceived Information Adequacy	.04	.19**	2.86	.89	1.11	
Perceived Self-efficacy	.10	.11	1.77	.98	1.01	
Motivations	.10	-.13	-1.86	.83	1.19	

Post-intervention group regression results $R^2=.10$ , $F(9,72)=2.02$ , $p<.05$						
	Std. Error	Beta	t	Tolerance	VIF	
Age	.14	.07	.58	.71	1.40	
Gender	.17	-.16	-1.38	.84	1.19	
Job Role	.11	.08	.77	.88	1.12	
Job Duration	.08	.01	.11	.80	1.24	
Perceived Potential to Change	.19	.09	.54	.41	2.39	
Perceived Personal Responsibility	.17	-.18	-1.25	.49	2.02	
Perceived Information Adequacy	.09	.18	1.50	.74	1.34	
Perceived Self-efficacy	.19	.12	1.07	.81	1.22	
Motivations	0.18	-.33**	-2.49	.62	1.60	

Note: \*\* p < .01

#### 4.2.3 Differences across post-intervention group employees' based on campaign awareness

Campaign awareness of newsletter stories and posters did not have a significant relationship with perceived satisfaction with current environmental behaviour, the dependent variable, nor with any other variables within the dataset except for campaign awareness of newsletter stories with age ( $r=.21$ ,  $p<.05$ ) and campaign awareness of posters with job role ( $r=.21$ ,  $p<.05$ ). Older age groups were more likely to be aware of newsletter stories than younger age groups, which was verified by a  $t$ -test ( $t_{(93)}=-2.16$ ,  $p<.05$ ). When examining differences based on the job role, no significant differences were found between employees, volunteers, seasonal workers and contractors in terms of their awareness of the posters. Additionally, awareness of newsletter stories and posters were positively and significantly correlated with one another, indicating that the more aware employees were of one campaign, the more likely they would also be aware of the other campaign ( $r=.29$ ,  $p<.01$ ).

When testing for H6, an initial regression was computed with campaign involvement for newsletters and posters as independent variables. Two separate regressions were then computed: one

with campaign awareness of newsletter stories and the other one with campaign awareness of posters. Only the regression with campaign awareness of newsletter stories was significant ( $R^2=.11$ ,  $F_{(10,71)}=2.01$ ,  $p<.05$ ) supporting previous literature regarding campaign awareness (e.g. Lo et al., 2012). Motivation continued to be the only independent variable significantly associated with perceived satisfaction with current environmental behaviour and was positively related to satisfaction for the post-survey.

To further assess the differences between employees who were aware of the newsletter stories and posters, post-intervention, a series of chi-squares, *t*-tests, and ANOVAs were computed. As noted earlier, older age groups were more likely to be aware of newsletter stories than younger age groups, which was verified by a *t*-test ( $t_{(93)}=-2.16$ ,  $p<.05$ ). All other tests indicated no significant differences.

#### *4.2.4 Differences across pre and post-intervention groups*

In order to test for H7, a series of ANOVAs were conducted to examine whether or not significant differences existed between the pre and post-intervention groups in terms of the variables measured in this study. Perceived potential to change ( $F_{(1,329)}=5.83$ ,  $p<.05$ ), perceived information adequacy ( $F_{(1,328)}=23.30$ ,  $p<.05$ ), and motivations ( $F_{(1,323)}=7.23$ ,  $p<.05$ ) differed significantly between the pre and post-intervention groups. Pre-intervention group employees had significantly lower scores for perceived potential to change, perceived information adequacy, and motivations, than the post-intervention group employees. There were no significant differences for perceived personal responsibility ( $F_{(1,328)}=1.51$ ,  $p>.05$ ), satisfaction with current environmental behaviour ( $F_{(1,318)}=.13$ ,  $p>.05$ ), and perceived self-efficacy ( $F_{(1,321)}=2.58$ ,  $p>.05$ ) scores between the pre and post-intervention groups.

Thus, the results presented above show that, for the pre-intervention group, only H2 and H4 were supported. Alternatively, for the post-intervention group, H3 was fully supported and H6, H7 were partially supported (Table 5).

#### *4.2.5. Pre- and post-intervention energy data*

Energy data at site-level was collected as a proxy measure of employees' actual behaviour. Data was available for four sites and the head office. Table 6 below shows an energy saving of

1888.42kWh compared to the baseline measurement taken before the intervention. According to the Energy Saving Trust (2014) this would equate to a £255.31 saving (based on an average rate of 13.52 pence/kWh of electricity). Data provided by the UK MET Office (2013, 2014) shows a small difference in the average temperature for January 2014 (4.8 °C) as compared to January 2013 (3.3 °C). It could be argued that this small increase in temperature cannot be solely responsible for the energy saving. Thus, it can be concluded that there is some evidence of behavioural change due to the intervention. However, caution should be shown when interpreting these results because of the limited ability of this type of measurement to control for other factors, in addition to outside temperature (which is also likely to have been different between sites), that might have led employees to reduce their energy use. Nevertheless, this proxy measure of actual behaviour strengthens the contribution of this paper, which to the authors' knowledge is the first one in the area of tourism CSR and tourism employee behaviour to report on a social marketing intervention with both self-reported and actual behaviour measurements.

**Table 5:** Summary of tested hypotheses

Hypothesis	Group	Status
H1: Perceived self-efficacy will have a significant and positive influence on employees' perceived satisfaction with current environmental behaviour.	Pre	Rejected
	Post	Rejected
H2: Perceived potential to change will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.	Pre	Accepted
	Post	Rejected
H3: Motivations for environmental behaviour will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.	Pre	Rejected
	Post	Accepted
H4: Perceived information adequacy will have a significant and positive influence on employees' perceived satisfaction with current environmental behaviour	Pre	Accepted
	Post	Rejected
H5: Perceived personal responsibility will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour.	Pre	Rejected
	Post	Rejected
H6: Campaign awareness (newsletters and posters) will have a significant and negative influence on employees' perceived satisfaction with current environmental behaviour after the intervention.	Post	Accepted for newsletters
H7: The intervention will generate significant differences between the pre-intervention and post intervention group in relation to (a) perceived self-efficacy, (b) perceived potential to change, (c) motivations, (d) perceived information adequacy, (e) perceived personal responsibility and (f) perceived current satisfaction with environmental behaviour.	Comparison	Accepted for (b), (c) and (d)

**Table 6:** Comparison of Energy Consumption (kWh): January 2013 - January 2014

Area	Jan 2013 average consumption/per day	Jan 2014 average consumption/per day	Change in energy use
Site 1A	344.85	549.07	204.22
Site 1B	300.03	178.12	-121.91
Site 1C	129.00	86.81	-42.19
Site 2A	721.77	557.52	-164.25
Site 2B	598.94	228.38	-370.56
Site 2C	721.78	557.54	-164.24
Site 3A	361.87	Data missing	n/a
Site 3B	35.77	Data missing	n/a
Site 4A	288.89	209.63	-79.26
Site 4B	367.68	398.13	30.45
Site Head Office A	2480.78	2033.24	-447.54
Site Head Office B	335.50	Data missing	n/a
Total	6686.86	4798.44	-1155.28
Adjusted total	5953.72 (excluding sites with missing data in January 2014)	4798.44	-1888.42 (2.81% decrease in energy use)

## 5.0 Conclusions

The present paper has examined, using mixed methods, an intervention among the employees of a cultural heritage tourism organisation. A range of individual employee variables were investigated (via a longitudinal study) in order to understand the effects of the interventions on employees' perceived satisfaction with current environmental behaviour. In addition, it sought to make suggestions for the design of effective social marketing interventions that motivate different types of environmental behaviours in the heritage tourism workplace.

From the qualitative data it was clear that, knowledge and awareness of issues were important factors mentioned in relation to satisfaction with behaviour, self-efficacy and perceived potential to change. This supports Chhabra's (2009) work that suggests a dual role of heritage tourism of entertainment and education and Butler's (1991) assertion that with regards sustainable development in tourism, educating all concerned is one of the best responses to the pressures of heritage tourism and this appears to continue to be the case now. The data also reflected a wide range of barriers to (technical, infrastructure barriers and other priorities) and motivations for environmental behaviour, beyond those highlighted in both the generic and tourism specific CSR literature (Coles et al., 2013) and highlighted a mixed level of feedback to staff. In addition the main motivators for environmental behaviour highlighted (cost-savings and health and safety) were directly aligned to the financial pressure (Garrod & Fyall, 2000) and intergenerational/inheritance aspects of heritage tourism (Nasser, 2003; Chhabra, 2009). This also reflects the suggestion that the heritage mission is a compromise



between conservation, financial and public access constraints and builds on the links between the core characteristics of heritage and sustainability/CSR objectives (Garrod & Fyall, 2000).

However, the pre-intervention quantitative data showed that only perceived potential to change and perceived information adequacy affected perceived satisfaction with current environmental behaviour, unlike past literature. As for the qualitative research it also supported the relevance of other variables and suggested tourism CSR and corresponding employee involvement requires a different approach to other industries and hence gives guidance to future interventions as well as further academic research in this area. In the post-intervention data, motivations significantly predicted satisfaction with behaviour and the scores for motivations, perceived potential to change and perceived information adequacy were higher than in the pre-intervention. Therefore, these three variables are key in explaining satisfaction with behaviour (and in turn likelihood to change behaviour). The results also suggest that newsletters had an effect, perhaps because they provided knowledge and awareness to the employees (highlighted as lacking in the qualitative stage) in more detail than posters could. The proxy measure of actual behaviour change showed a reduction of energy by almost 3%, which renders the intervention a success and is comparable with the results of past studies (e.g. 4% in Carrico & Riemer, 2011). Short social marketing campaigns often struggle to produce significant levels of actual behaviour change and, therefore, will alternatively measure knowledge and belief changes as evaluation of the intervention with the expectation that further interventions can build on this and produce greater behaviour change (Lee & Kotler, 2011). It may be the case that due to the shortness of the intervention, knowledge and beliefs changed, but this did not have the time to translate fully into extensive behaviour change, though the results are encouraging. Taking into account the behaviour change over the period of the intervention and the potential for future behaviour change resulting from changes in knowledge and beliefs, social marketing interventions can be seen as an effective strategy for cost saving. This responds to the noted financial pressures, through increased operating and maintenance/ repair costs, felt by the heritage tourism sector (Garrod & Fyall, 2000).

### ***5.1 Managerial implications***

The findings of this research show that it is important for employees to have knowledge and awareness of environmental activities and correct pro-environmental behaviour. It falls to managers to ensure training is in place to bring individuals up to a suitable level of knowledge but also to ensure that employees display self-efficacy and perceived behavioural control (Ajzen, 2002) and to overcome perceived barriers and to ensure they see the potential to change their behaviour. In addition, different motivations for behaviour were highlighted in comparison to the general and tourism specific literatures and, hence, senior managers must be aware how motivations may differ for employees (especially those who are focused on their site or work area) rather than for managers and the organisation as a whole. Indeed, the additional motivations and barriers highlighted may be a reflection of the research design, focusing on a wide range of employee types including volunteers and seasonal workers rather than just management level employees. Prior research (Garrod & Fyall, 2000) has noted, via a Delphi study, that conservation is ranked the highest element of the mission of heritage attractions by the panel (conservators and curators, planners, operations managers, strategic experts, public relations experts and marketing professionals) reflecting the motivation of one stakeholder but may not reflect the mission of front line employees who, as noted previously will be central in behaviour change initiatives.

Managers must also understand how these motivations and barriers differ between sites (we were not able to analyse this here due to differing sample sizes between sites) with employees seeing considerable differences between them and highlighting very different infrastructure barriers to behaviour change at each. Manika et al. (2014) in their comparison across 7 organisations suggested that separate interventions might be needed for each type of environmental behaviour, as well as for each organisation, sector, and type of organisation (public vs. private). This research suggests organisations with a range of different sites (and types of site) might require separate interventions for each site. Understanding these differences fully will result in more focused and efficient interventions resulting in potential for cost savings and therefore assists in the expected increasing maintenance and conservation costs in heritage tourism (Garrod & Fyall, 2000).

The research also highlighted the important role of information and feedback on employees' behaviour. Initially, it is important to ensure that information is correct, understandable and available to all employees (an infrastructure issue that can only be dealt with at managerial level). Additionally, given that the energy saving across all the sites equals only to small amount of financial savings (i.e. £255.31), although does reflect that CSR had a positive influence on CFP through cost saving and given that the literature suggests the employees do not usually have a financial interest at the workplace (e.g. Carrico & Riemer, 2011), the savings might be better presented to the employees in terms of percentage saving (2.81% decrease) or total amount of kWh (1,888.42) or as a representation of how the money will be reinvested. Certainly, focusing on reinvestment arguably fits better with revenue seeking objectives being built on a 'need to preserve' ethos (Fyall & Garrod, 1998), a focus on only economic goals being detrimental to the preservation ethos (Chhabra, 2009) and a shift in heritage tourism from economic profit priorities towards sustainability objectives (Jamrozny, 2007). Competition could also form a part of an intervention strategy but any comparison between sites should be relevant and take into account site differences. Again, use of a percentage savings may be more relevant here.

## ***5.2 Limitations and future research***

While the present study contributes to the tourism CSR literature in several ways, there are several limitations, which should be considered by future research.

In addition to the variables we included in this study, future studies should look at including individual variables such as perceived behavioural control (highlighted by the qualitative elements of the study), norms (Carrico & Riemer, 2011), behavioural intentions (Ajzen, 2002), self-reported behaviour and organisational culture (Deshpandé, Farley & Webster, 1993). Furthermore, measures of perceived environmental behaviour of an organisation and perceptions of organisational support and incentives (Manika et al., 2014) should be included in both questionnaires, given the issues brought up by employees in the interviews. In addition it may be useful to include variables relating to the inheritance (Garrod & Fyall, 2000; Chhabra, 2009) and intergenerational (Jepson, 2001; Nasser, 2003) aspects of both heritage tourism and sustainability such as generativity, "a resource encouraging people toward the public good, maintaining continuity from one generation to the next"

(p 73) which has previously been applied to eco-consumption behaviour and intentions (Urien & Kilbourne, 2011). Altogether, these additional individual and organisation-related variables and beyond will help researchers to obtain a wider understanding of the range of drivers of employee behavioural change specifically in tourism organisations. Most importantly, future research should include measures of both subjective and objective knowledge (Gurham-Canli, 2003), which would be especially important in determining the type and level of interventions that take place.

While the proxy measure of actual individual behaviour, i.e. energy use per site, is one of the strengths of this piece of research, future similar interventions should consider better measures of actual behaviour/energy saving and targeting a broader range of behaviours, such as waste and recycling. In addition, further qualitative data collection after the intervention would be helpful to fully explore changes in key variables and what shapes the perceptions of environmental behaviours and preservation of heritage buildings for future generations (e.g. Hall & McArthur, 1998).

Lastly, as noted previously, since the quantitative data analysed here was drawn from questionnaires developed by the charity, future research should aim to employ more academically rigorous and robust scales for both employees and organisational-related variables in the field of tourism CSR. In addition, future research should examine the skewness and kurtosis z-scores of the measures used to ensure the normality of the data for both pre and post-intervention surveys. A limitation of this study was that the post-intervention data had significant departures from normality which may have affected results. Advanced statistical methods such as multi-group structural equation modelling analysis could also be employed, with larger and balanced samples between pre and post-intervention surveys to understand how motivations and barriers of employees' environmental behaviours differ between sites and tourism organisations.

### ***5.3 Final remarks***

This research has focused on assessing a social marketing intervention of environmental behaviour change within a cultural heritage tourism organisation. This paper contributes to the literature in a number of ways:

- The work has focused beyond managers, at the micro level of employees, and has highlighted a wider range of motivators and barriers to employee environmental behaviour than reported

in either the generic or tourism specific CSR literatures. The data was collected and is representative of a range of tourism and cultural heritage employees (i.e. permanent, volunteers and seasonal staff at all levels).

- This paper adds to the literature by using a mixed method and longitudinal design, as well as utilising a proxy measure of actual employee behaviour change via energy savings in the organisation. This resulted in a study more comprehensive in its scope than any past studies.
- Additionally, this research has highlighted the importance of developing interventions specific not only to industry and organisation type but also at site level.

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