Article

Accommodation Consumers and Providers’ Attitudes, Behaviours and Practices for Sustainability: A Systematic Review

Colin Michael Hall 1,2,3,4,*, Natasha Dayal 1, Dea Majstorović 1, Hamish Mills 1, Leroy Paul-Andrews 1, Chloe Wallace 1 and Van Dao Truong 5,6

1 Department of Management, Marketing and Entrepreneurship, University of Canterbury, Christchurch 8041, New Zealand; natashadayal1@gmail.com (N.D.); dea.maj@gmail.com (D.M.); millsclan@clear.net.nz; (H.M.); leroy.paulandrews@pg.canterbury.ac.nz (L.P-A); chloe.wallace@pg.canterbury.ac.nz (C.W.)
2 Department of Geography, University of Oulu, Oulu 90014, Finland
3 School of Business and Economics, Linneaus University, Nygatan 18B, 392 34 Kalmar, Sweden
4 School of Hospitality and Tourism, University of Johannesburg, Johannesburg 2006, South Africa
5 Tourism Research in Economic Environments & Society (TREES), North-West University, Potchefstroom Campus, Potchefstroom 2520, South Africa; vandao83@yahoo.co.uk
6 Department of Tourism and Hospitality, National Economics University, Hai Ba Trung District, Hanoi, Vietnam

* Correspondence michael.hall@canterbury.ac.nz

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Abstract: Accommodation and lodging are an integral component of the tourism and hospitality industry. Given the sectors’ growing contribution to resource consumption and waste, there is a growing body of literature on the attitudes, behaviours and practices of consumers, managers, staff and owners of lodging with respect to sustainability. This paper presents the results of a systematic analysis of articles on attitudes, behaviours and practices of consumers and the provision of accommodation with respect to sustainability. The results indicate that there is a dearth of longitudinal studies on the sustainability of practices and behaviours. There are limitations in geographical coverage as well as methods, with research dominated by convenience sampling approaches. It is concluded that while there appear to be improvements in the potential sustainability of lodging with respect to technological approaches, the lack of systematic long-term studies on behavioural interventions represents a significant challenge to reducing the absolute emissions of the sector as well as reductions in energy and water use and waste production. Given the lack of longitudinal studies, it is not known whether observed behavioural changes are sustained over time.

Keywords: accommodation; behavioural change; behavioural intervention; hospitality; lodging; social marketing; sustainable behaviour; sustainable consumption; sustainable practices; tourism

1. Introduction

The impacts of tourism on the natural and social environment have been a long-standing focus of tourism and hospitality research [1]. As a subsector, accommodation and lodging have been recognised as having a range of significant effects. After aviation and car transport, the accommodation sector is estimated to contribute 21% of tourism’s global greenhouse gas emissions [2]. In addition, the sector is a major user of energy, land and water resources as well as a contributor to water, food and other waste [3–7].
Much of the focus in improving the sustainability of the accommodation and lodging sector, as with tourism overall, has been on encouraging the adoption of technologies and management systems that produce greater efficiencies in per room or customer inputs and outputs [7–13]. For example, the World Economic Forum [14] (p. 7) suggests, ‘For the accommodation cluster, reductions in carbon emissions will primarily be driven by the use of existing mature technologies in lighting, heating and cooling that can significantly improve hotel energy efficiency’. Undoubtedly, greater efficiencies are an important component of improvements in sustainable consumption of tourism resources. However, concerns also exist about the extent they may contribute to undesirable rebound effects unless there is also simultaneous attention paid to changes in actual consumption behaviour as well as the adoption of technological, behavioural and policy innovations that also contribute to greater sustainability [15–24]. Therefore, there is a growing body of literature on the attitudinal and behavioural dimensions of sustainable tourism and hospitality, including with respect to accommodation and lodging, as well as the persistent gap between consumers’ typically positive explicit attitudes towards sustainability and their actual consumption behaviours [22,24–27].

Research on sustainable accommodation attitudes and practices is centred around investigating the perspectives of producers and consumers. Producer or supply side research focuses on the attitudes of accommodation managers, owners and employees toward sustainability and their environmental policies and practices. Consumer focussed research examines the perceptions and behaviours of tourists towards the sustainable practices of accommodation providers, consumer practices, support for green accommodation product, and the impacts of government or producers actions on consumer behaviour. In addition, there is growing interest in stakeholder based approaches to understanding the sustainability policies and practices of accommodation providers [28,29]. However, despite significant interest in improving the sustainability of accommodation and lodging properties, there is little knowledge of the extent to which changes in consumption behaviours and sustainability practices have been maintained over time nor of the means by which behaviours and practices have been studied. Therefore, this study provides a systematic review of journal articles covering issues of consumer and producer behaviours and attitudes with respect to the greening and sustainability of accommodation and lodging. By using the systematic review methodology, a broad overview of the literature is created, allowing trends and themes to become clear. From this, conclusions can be drawn on the key findings and on future research directions.

2. Materials and Methods

The power of systematic literature reviews in providing statistically reliable conclusions has long been acknowledged in the field of health, where the use of systematic reviews is integral to evidence-based healthcare [30]. However, in tourism the use of systematic reviews is limited [31].

The PRISMA framework and 27-item checklist were used to guide the data selection and collection for this paper [32,33]. As with all research, the value of a systematic review depends on what was done, what was found, and the clarity of reporting, which in turn is based upon the clarity of the original research and its interpretation. The aim of the PRISMA Statement is therefore to help authors improve the reporting of systematic reviews and meta-analyses [33].

The search aimed to account for several dimensions that make up the focus of this review. To do this, the search looked at four keyword groups: tourists, behaviour, environment and accommodation type. Within each keyword group, synonyms were identified within relevant research through searches undertaken during the preliminary narrative literature review. This ensures that no relevant research is excluded through the use of applicable terminology that is not identical to the keywords. Keywords were identified via reading through literature and communication with researchers in the sustainable tourism and hospitality field who acted as an expert reference group. Search terms were also refined via trial exercises and the capacity of any search to identify relevant benchmark papers.

The formal systematic review was undertaken by an examination of the Web of Science and Scopus databases along with library searching and surveys of Google Scholar. The Scopus database was find to
be more advantageous for the tourism and hospitality field because of its wider journal coverage. For the purpose of this study, only records from peer-reviewed periodicals were included in the systematic review. Therefore, books and book chapters, conference papers, and industry and government reports were excluded from the systematic review but were used for the thematic review that helped identify key terms. The full search term below shows the exact terms used to generate potential records for examination. Other refining elements used in searches of the Scopus databases were to select only document types classified as “articles” or “reviews”, and only documents published before 2015: TITLE-ABS-KEY (“consumer” OR “target audience” OR “tourism” OR “tourist” OR “travel” OR “holiday” OR “VFR” OR “vacation”) AND TITLE-ABS-KEY (“response” OR “perception” OR “attitude” OR “behaviour” OR “motivation”) AND TITLE-ABS-KEY (“sustain” OR “green” OR “environment” OR “ecolog” OR “CSR” OR “carbon” OR “emission” OR “energy” OR “waste”) AND TITLE-ABS-KEY (“accommodation” OR “backpacker” OR “hostel” OR “motel” OR “hotel” OR “lodging” OR “caravan park” OR “holiday park” OR “cabin” OR “campground” OR “resort”) AND DOCTYPE (ar OR re) AND PUBYEAR < 2015.

The initial database search retrieved 572 documents. After screening for papers clearly not relevant to the subject, the number of appropriate articles was reduced to 105. From there, a small number of non-duplicate papers were added raising the total to 109 papers. Out of the 109 papers, only 93 were reviewed, due to the fact that nine could not be accessed, and seven were found to be not relevant to the study. Data was then recorded for each individual article including research method, sample method, sample size, sample demographics, target sample audience, geographical location of study, accommodation type (if applicable), variables, longitudinal study or not, and the key findings.

3. Results

Of the 93 papers, 44 were primarily consumer related with a main focus on tourists and visitors (Table 1). The remaining studies were producer related and studied specific hotels, their managers and employees (Table 2). Only two papers [34,35] included substantive research on both consumer and producer perspectives with respect to environmental practices and perceptions. The various elements of these papers has been included in both tables for ease of convenience. Over two-thirds of studies were undertaken in the period 2010–2014, reflecting the growing interest in the field. Many of the studies were exploratory in nature either reporting on profiles or not specifically aiming to test theory or scales, although many were theoretically informed. Of the 93 studies, only one was longitudinal with respect to charting changes in behaviours over time. This was a producer related study on attitudes and behaviours towards climate change by small-scale rural accommodation providers in New Zealand [36]. The absence of such studies arguably has significant implications for understanding the sustainability of behavioural change.
Table 1. Overview of consumer oriented papers.

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
<th>Sample</th>
<th>Method</th>
<th>Main Variables</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firth &amp; Hing [34]</td>
<td>Sample Size (n = ) 6 Structured interviews; 60 guest surveys</td>
<td>Interview &amp; survey</td>
<td>-</td>
<td>17% of respondents stated that because of the increased level of environmental awareness in Byron Bay, they had been implementing ecofriendly practices such as recycling while holidaying. 12% admitted that, while environmentally conscious at home, they abandoned this level of responsibility while on holiday.</td>
</tr>
<tr>
<td>Byron Bay, Australia</td>
<td>Target Sample</td>
<td>Backpacker hotel manager; Backpacker guests</td>
<td>-</td>
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<tr>
<td>Fairweather, Maslin &amp; Simmons [37]</td>
<td>Sample Size (n = ) 295</td>
<td>Convenience interviews</td>
<td>-</td>
<td>One-fifth of respondents recalled places with eco-labels, and only 13% had ever heard of any tourism eco-label. 33% had some experience of ecolabels. 61% of respondents expressed biocentric values, 39% expressed ambivalent values but not anthropocentric values towards nature.</td>
</tr>
<tr>
<td>2005</td>
<td>Target Sample</td>
<td>Visitors</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Lee &amp; Moscardo [38]</td>
<td>Sample Size (n = ) pre-visit survey: 242, post-visit survey: 396</td>
<td>Survey</td>
<td>Environmental knowledge, awareness, attitudes and behavioural intentions, pre-visit and post-visit</td>
<td>Few statistically significant differences between pre-visit and post-visit samples. Visitor awareness of, and involvement in, environmental management practices, and participation in nature tour activities had significant effect on environmental attitudes and behaviours. Attractions and natural experiences are major pull factors. Escapism is often listed as a push factor. Pull factors seem to have stronger influence.</td>
</tr>
<tr>
<td>2005</td>
<td>Target Sample</td>
<td>Tourists</td>
<td>-</td>
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<tr>
<td>Malaysia</td>
<td>Sample Demographic</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Chan &amp; Baum [39]</td>
<td>Sample Size (n = ) 29</td>
<td>Purposive interviews</td>
<td>Motivational factors for visiting an ecolodge</td>
<td></td>
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<tr>
<td>2007</td>
<td>Target Sample</td>
<td>English-speaking European hotel guests</td>
<td>-</td>
<td></td>
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<tr>
<td>Nepal [41]</td>
<td>Sample Size (n = ) 120</td>
<td>Convenience survey</td>
<td>Consumer attitude, behaviour and willingness to pay for green practices, consumer willingness to pay</td>
<td>Consumers expect tangible green practices such as towel and linen reuse, and communication about green practices. They also reported that they would pay between 4%–6% extra for visible green practices.</td>
</tr>
<tr>
<td>2007</td>
<td>Target Sample</td>
<td>Trekkers/Hikers</td>
<td>-</td>
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<tr>
<td>Nepal</td>
<td>Sample Demographic</td>
<td>Intercept survey</td>
<td>Hikers’ importance and satisfaction of amenities</td>
<td>Hikers rated lodging recommendations from peers, comfortable living room, environmental quality, peaceful atmosphere, and host friendliness highly. Less importance on sanitation and hygiene. Were willing to pay a little extra for eco-free.</td>
</tr>
</tbody>
</table>
Table 1. Cont.

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</tr>
</thead>
<tbody>
<tr>
<td>Dalton, Lockington &amp; Baldock [42]</td>
<td>Sample Size (n = ) -</td>
<td>Convenience survey</td>
<td>Energy retrieved from renewable energy sources, amount willing to pay for accommodation</td>
<td>Customers appeared willing to pay 1%-5% more if the energy used from the hotel was from a renewable source.</td>
</tr>
<tr>
<td>2008</td>
<td>Target Sample</td>
<td></td>
<td>Guests in 3.5 to 4.5 star cabin and hotel accommodation</td>
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<tr>
<td>Brisbane, Australia</td>
<td>Sample Demographic -</td>
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<tr>
<td>Goldstein, Cialdini &amp; Griskevicius [43]</td>
<td>Sample Size (n = ) 1058</td>
<td>Experiment</td>
<td>Phrasing on a message used on a towel rack regarding the hotel towel reuse programme, guest participation within the hotel towel reuse programme</td>
<td>Through crafting a message with a descriptive norm a significantly higher rate of guests participated in the towel reuse programme than those who received a generic environmental message.</td>
</tr>
<tr>
<td>2008</td>
<td>Target Sample</td>
<td></td>
<td>Guests in midsize, midprice hotel</td>
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<tr>
<td>USA</td>
<td>Sample Demographic -</td>
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<td></td>
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</tr>
<tr>
<td>Tsai &amp; Tsai [44]</td>
<td>Sample Size (n = ) 815</td>
<td>Intercept survey</td>
<td>Environmental ethics, green consumption behaviour</td>
<td>Participants felt willing to support sustainable hotel practices to a greater extent than their personal actions. No difference in preferences for ‘green’ and non-‘green’ hotels.</td>
</tr>
<tr>
<td>2008</td>
<td>Target Sample</td>
<td></td>
<td>Guests of international 5-star hotels</td>
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<tr>
<td>Taiwan</td>
<td>Sample Demographic 59% female, 45% aged 20-39</td>
<td></td>
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<tr>
<td>Choi, Parsa, Sigala &amp; Putrevu [45]</td>
<td>Sample Size (n = ) 200</td>
<td>Convenience survey</td>
<td>Environmentally responsible practices, willingness to pay</td>
<td>Greek participants regarded environmentally responsible practices more important than US participants.</td>
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<tr>
<td>2009</td>
<td>Target Sample</td>
<td></td>
<td>University students</td>
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<tr>
<td>Greece &amp; USA</td>
<td>Sample Demographic -</td>
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<tr>
<td>Han, Hsu &amp; Sheu [46]</td>
<td>Sample Size (n = ) 428</td>
<td>Convenience survey &amp; focus group</td>
<td>Attitude toward green products, intentions to stay at a hotel</td>
<td>A consumer’s ‘green’ attitude is a key mediator of their intention to stay at a ‘green’ hotel.</td>
</tr>
<tr>
<td>2010</td>
<td>Target Sample</td>
<td></td>
<td>Hotel guests</td>
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<tr>
<td>USA</td>
<td>Sample Demographic 51.2% female, 44.5% average age, 89.5% graduates</td>
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<tbody>
<tr>
<td>Han &amp; Kim [47]</td>
<td>Sample Size (n = ) 469</td>
<td>Purposive survey</td>
<td>Intention to revisit, service quality, satisfaction, overall image and frequency of past behaviour</td>
<td>Study showed that the theories of Planned Behaviour and Reasoned Action were not good predictors of revisit intentions for green hotels. The study found four constructs that could be incorporated into these models: service quality, satisfaction, overall image and frequency of past behaviour.</td>
</tr>
<tr>
<td>USA</td>
<td>2010 Target Sample US hotel customers</td>
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<tr>
<td>Kim &amp; Han [48]</td>
<td>Sample Size (n = ) 389</td>
<td>Random survey</td>
<td>Willingness to pay for green hotels, Theory of Planned Behaviour (TPB) variables as well as environmental concerns, perceived customer effectiveness and environmentally conscious behaviours</td>
<td>All variables the research added to the TPB were predictive of intention to pay conventional hotel prices for a green hotel. Respondents were happy to have minor inconveniences, e.g., reusing towels and using recycled products, and were keen to learn about the positive environmental attributes of green hotels.</td>
</tr>
<tr>
<td>USA</td>
<td>2010 Target Sample US hotel customers</td>
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<tr>
<td>Kwan, Eagles &amp; Gebhardt [49]</td>
<td>Sample Size (n = ) 331</td>
<td>Random survey</td>
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<tr>
<td>Belize</td>
<td>2010 Target Sample Ecocodge Guests</td>
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<td></td>
<td>The majority of ecocodge guests were US residents between 36 and 55 years of age, of higher income brackets, spent 1–2 weeks in Belize, got their travel information from the Internet, and intended to travel to Belize to experience the natural environment.</td>
</tr>
<tr>
<td>Lee, Hsu, Han &amp; Kim [50]</td>
<td>Sample Size (n = ) 416</td>
<td>Random survey</td>
<td>The green branding of a hotel, intentions to stay in a &quot;green&quot; hotel</td>
<td>Green consumers have greater intentions to stay at a “green” hotel</td>
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<tbody>
<tr>
<td>Tsagarakis, Bounialetou, Gillas, Profylienoi, Pollaki &amp; Zografakis [51]</td>
<td>Sample Size ((n = ) 2308</td>
<td>Intercept survey</td>
<td>Willingness to pay and use hotels with energy saving installations and/or renewable energy sources, demographics</td>
<td>The vast majority of consumers would prefer to stay in a hotel with energy saving installations and/or renewable energy sources assuming identical cost and quality. The majority of these consumers would be willing to pay extra for hotels that use these sustainable energy practices</td>
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<tr>
<td>2011</td>
<td>Target Sample</td>
<td>45.4% stayed in 4 star or greater, average stay was 10 days</td>
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<tr>
<td>Crete, Greece</td>
<td>Sample Demographic</td>
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<tr>
<td>Bastic &amp; Gojcic [52]</td>
<td>Sample Size ((n = ) 611</td>
<td>Intercept survey</td>
<td>Tourist expectations of four dimensions: hotel staff eco-behaviour, environmentally friendly and healthy equipment, efficient energy and water usage, availability of bio food, nationality, education, income, whether they stayed in an eco-certified hotel or not</td>
<td>The most important factor among tourists was the behaviour of hotel staff, including recycling and waste minimisation. The least important was the availability of organically sourced vegetarian food though all factors were found to be somewhat important. Level of education has no significant effect on expectations. There was a significant relationship between expectations and monthly income with higher income resulting in higher expectations.</td>
</tr>
<tr>
<td>2012</td>
<td>Target Sample</td>
<td>58.4% female, 48.3% from Austria, 37.6% earned over 2000 Euro per month, 54.9% high school graduates</td>
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<tr>
<td>Slovenia &amp; Austria</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
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<tr>
<td>Chen &amp; Peng [53]</td>
<td>Sample Size ((n = ) 181</td>
<td>Quota survey</td>
<td>Intention to stay at a green hotel and behaviour (whether they stayed at a green hotel), attitude toward eco-labels, perceived behaviour control, social norms and knowledge of hotel eco-labels</td>
<td>Those with higher knowledge and positive attitudes toward green hotels are more likely to stay at a green hotel. Those with lower knowledge are more likely to be motivated by the recommendations of others.</td>
</tr>
<tr>
<td>2012</td>
<td>Target Sample</td>
<td>Chinese residents who travelled to Europe in the last 12 months</td>
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<tr>
<td>China</td>
<td>Sample Demographic</td>
<td></td>
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<tr>
<td>do Valle, Pintassilgo, Matias &amp; Andre [54]</td>
<td>Sample Size ((n = ) 474</td>
<td>Intercept survey</td>
<td>Willingness to pay tax, tourist segment</td>
<td>“typical sun and beach tourists”, show a low willingness to pay the proposed accommodation tax. The receptivity to this measure is above average in three segments, termed as “environmental steward tourists”, “nature oriented tourists” and “frugal tourists”.</td>
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<tr>
<td>2012</td>
<td>Target Sample</td>
<td>Tourists on select beaches in Portugal</td>
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<tr>
<td>Algarve, Portugal</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
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<tr>
<td>Hu [55]</td>
<td>Sample Size ((n = ) 300</td>
<td>Intercept survey</td>
<td>Attitude toward the advertisement, brand attitude and purchase intention, type of advertisement the consumer was exposed to as well as their level of involvement in environmental issues</td>
<td>Clear factual claims about environmental policy makes for more effective marketing communication than vague statements. Advertisements that emphasise self-expression are more effective than those that focus on concepts of nature. Those with low involvement less interested in both emotional and rational appeals</td>
</tr>
<tr>
<td>2012</td>
<td>Target Sample</td>
<td>56% female, 44% married, 72% under the age of 40, 74.3% had a college degree, 55% earned less than $40,000 per year</td>
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### Table 1. Cont.

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<tr>
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<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kim, Palakurthi &amp; Hancer [56]</td>
<td>Sample Size (n = ) 133</td>
<td>Random survey</td>
<td>Intention to stay at an environmentally friendly hotel, perceived effectiveness of environmentally friendly programs, gender, age, education, annual income, travel purpose, cost per night of last hotel, frequency of hotel stay and self-described environmental mindedness</td>
<td>The existence of four programs predicted intention to stay in an environmentally friendly hotel: solid waste and water program in guestroom, energy program, solid waste and water program in housekeeping, and a biodiversity program.</td>
</tr>
<tr>
<td>2012</td>
<td>Target Sample</td>
<td>-</td>
<td>Members of travel-related online communities</td>
<td></td>
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<td>-</td>
<td>Sample Demographic</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Chan [35]</td>
<td>Sample Size (n = ) 1090</td>
<td>Convenience survey</td>
<td>Perceptions of hotels’ green practices’ impact, perceptions of hotels’ green practices</td>
<td>The two statements that gained the highest level of agreement amongst both hotel managers and customers were: “The internet is an effective channel for marketing a hotel’s green initiatives directly to customers”, and “Green hotels can elevate industry members’ image and reputation to attract green tourists who demand green accommodation when travelling”.</td>
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<tr>
<td>2013</td>
<td>Target Sample</td>
<td>Hotel customers and hotel managers</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Sample Demographic</td>
<td>Intercept survey</td>
<td>Consumers’ perceptions of hotels’ green practices, customer loyalty to green hotels, perceived fit between a hotel’s core business and its green practices</td>
<td>Environmental concerns moderate the link between perceptions of a hotel’s green practices and visit intention. Perceptions of fit between a hotel’s core business and its green practices significantly affect behavioral intentions.</td>
</tr>
<tr>
<td>2013</td>
<td>Target Sample</td>
<td>Airline passengers at terminal</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Korea</td>
<td>Sample Demographic</td>
<td>Convenience based interviews</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ham &amp; Han [57]</td>
<td>Sample Size (n = ) 263</td>
<td>Intercept survey</td>
<td>Consumers’ perceptions of hotels’ green practices, customer loyalty to green hotels, perceived fit between a hotel’s core business and its green practices</td>
<td>Environmental concerns moderate the link between perceptions of a hotel’s green practices and visit intention. Perceptions of fit between a hotel’s core business and its green practices significantly affect behavioral intentions.</td>
</tr>
<tr>
<td>2013</td>
<td>Target Sample</td>
<td>Mainland Chinese tourists, English speaking international tourists</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Han &amp; Chan [58]</td>
<td>Sample Size (n = ) 30</td>
<td>Convenience based interviews</td>
<td>Perceived impact of sustainable practices in hotels, willingness to pay for green hotels, attitude toward sustainable tourism practices.</td>
<td>A majority of the interviewees were willing to pay higher rates for green hotel rooms.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Sample Demographic</td>
<td>53% male, 28% income above $40,000 USD</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kucukusta, Mak &amp; Chan [59]</td>
<td>Sample Size (n = ) 150</td>
<td>Intercept Survey</td>
<td>Tourists at key tourist attractions around Hong Kong</td>
<td>Visitors interpreted CSR as consisting of: community, policy, mission and vision, workforce, and environment. Environment and mission and vision are the most important factors affecting service quality, preference to stay, willingness to pay, and brand image.</td>
</tr>
<tr>
<td>2013</td>
<td>Target Sample</td>
<td>18% VFR, 15% work purpose; 54 % vacation, + other</td>
<td>Willingness to stay at hotels implementing CSR practices; awareness of CSR practices</td>
<td>Visitors interpreted CSR as consisting of: community, policy, mission and vision, workforce, and environment. Environment and mission and vision are the most important factors affecting service quality, preference to stay, willingness to pay, and brand image.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Sample Demographic</td>
<td>50% Chinese tourists, 50% English speaking tourists</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MacIntosh, Apostolis &amp; Walker [60]</td>
<td>Sample Size (n = ) 333</td>
<td>Convenience survey</td>
<td>Behavioural intentions; organisation`s environmental responsibility (ER) initiatives</td>
<td>Consumers held moderate levels of environmental awareness and their behavioral intentions were mildly impacted by the organisation’s ER initiatives. For employees the framing of environmental messages caused dissonance but consumers were influenced by the ER activities.</td>
</tr>
<tr>
<td>2013</td>
<td>Target Sample</td>
<td>Customers of a mountain resort</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quebec, Canada</td>
<td>Sample Demographic</td>
<td>Convenience survey</td>
<td>54% male/28.5% travelled less than 25 kms to resort</td>
<td>Consumers held moderate levels of environmental awareness and their behavioral intentions were mildly impacted by the organisation’s ER initiatives. For employees the framing of environmental messages caused dissonance but consumers were influenced by the ER activities.</td>
</tr>
<tr>
<td>Citation &amp; Location</td>
<td>Sample</td>
<td>Method</td>
<td>Main Variables</td>
<td>Key Findings</td>
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<tr>
<td>Mensah &amp; Mensah [61]</td>
<td>Sample Size (n = ) 384</td>
<td>Intercept survey</td>
<td>Willingness to purchase; environmental attitude of tourists, tourism’s contribution to climate change</td>
<td>72.2% of respondents did not believe that hotels impact negatively on the environment. Only 14.7% of respondents agreed that hotels claiming to be environmentally responsible were so.</td>
</tr>
<tr>
<td>Accra, Ghana</td>
<td>Target Sample</td>
<td>International tourists at tourist attractions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miao &amp; Wei [62]</td>
<td>Sample Size (n = ) 1185</td>
<td>Random survey</td>
<td>Pro-environmental behaviour; household and hotel settings</td>
<td>Participants reported a significantly higher level of pro-environmental behavior in a household setting. Normative motives are the dominant determinant of pro-environmental behavior in a household setting, and hedonic motives are the strongest predictor in a hotel setting</td>
</tr>
<tr>
<td>USA</td>
<td>Sample Demographic</td>
<td>“Representative, diverse population”, 53% male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Millar, Mayer &amp; Baloglu [63]</td>
<td>Sample Size (n = ) 571</td>
<td>Convenience survey</td>
<td>Perceived importance of green attributes in hotels such as easy access to recycling facilities; purpose for travel (business or leisure) and green behaviour at home</td>
<td>Attitudinal differences between business and leisure travelers are insignificant. A number of environmental actions a hotel can take that were important to consumers include: access to recycling bins in hotel lobby, occupancy sensors to control lighting energy use and sustainable towel and linen policies. This can be important for creating a green experience as well as mimicking the customer’s personal lifestyle.</td>
</tr>
<tr>
<td>USA</td>
<td>Sample Demographic</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miththapala, Jayawardena &amp; Mudadeniya [64]</td>
<td>Sample Size (n = ) 4500</td>
<td>Intercept survey</td>
<td>Satisfaction levels, places visited within Sri Lanka; Gender, repeat visitor, purpose of visit, length of stay</td>
<td>Hotel guests will increasingly desire to participate and assist hotels in achieving efficiency targets.</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Target Sample</td>
<td>Tourists at airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prud’homme &amp; Raymond [65]</td>
<td>Sample Size (n = ) 473</td>
<td>Convenience survey</td>
<td>Customer satisfaction; sustainable development practices implemented in hotels, hotel size, ownership structure</td>
<td>Customer satisfaction is positively influenced by the hotel’s adoption of sustainability practices. The level of customer satisfaction varies according to the hotel’s size and type of ownership.</td>
</tr>
<tr>
<td>Quebec, Canada</td>
<td>Target Sample</td>
<td>Hotel customers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slevitch, Mathe, Karpova &amp; Scott-Halsell [66]</td>
<td>Sample Size (n = ) 1140</td>
<td>Convenience survey</td>
<td>Customer satisfaction; green attributes</td>
<td>Confirmed non-linear nature of customer satisfaction response and indicated that lodging industry “green” attributes impact customer satisfaction similarly to facilitating attributes.</td>
</tr>
<tr>
<td>USA</td>
<td>Sample Demographic</td>
<td>University faculty of two universities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citation &amp; Location</td>
<td>Sample</td>
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<td>Main Variables</td>
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<td><strong>Table 1. Cont.</strong></td>
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<tr>
<td>Baker, Davis &amp; Weaver [67]</td>
<td>Sample Size (n = ) 208</td>
<td>Convenience survey</td>
<td>Pro-environmental attitudes, behaviours and perceptions of the hotel; intentions to stay in a “green” hotel</td>
<td>The value an individual places on pro-environmental behaviour has the greatest effect on intentions to stay in a “green” hotel. Inconvenience, perceptions of cost-cutting, and decreased luxury are perceived as barriers to a “green” hotel.</td>
</tr>
<tr>
<td>2014 USA</td>
<td>Target Sample</td>
<td>Convenience survey</td>
<td>68.3% female, 43.8% 26–35, 54.8% graduates</td>
<td></td>
</tr>
<tr>
<td>Chan &amp; Han [68]</td>
<td>Sample Size (n = ) 237</td>
<td>Factorial experimental design, convenience sampling</td>
<td>Attitude towards advertisement, attitude towards brand image, attitude towards advertising effect, gender, age.</td>
<td>Advertising featuring environmental practices perceived to have higher environmental impact generated a more favorable effect than environmental practices perceived to have lower impact. Brand image is not affected by environmental practices or consumers’ environmental concern. Consumers with higher concern for the environment were more affected by high impact environmental practices than consumers who cared less.</td>
</tr>
<tr>
<td>2014 Hong Kong</td>
<td>Target Sample University students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chang, Tsai &amp; Yeh [69]</td>
<td>Sample Size (n = ) 350</td>
<td>Quasi-random survey</td>
<td>Tourists behaviour intentions for staying overnight at green hotels; environmental education</td>
<td>A green hotel that provides green service can be supported by environmental education.</td>
</tr>
<tr>
<td>2014 Taiwan</td>
<td>Target Sample People at the checkout counters of three of the 19 winners of a 2008 Taiwanese green hotel competition</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Chen &amp; Tung [70]</td>
<td>Sample Size (n = ) 559</td>
<td>Convenience questionnaire</td>
<td></td>
<td>Consumers’ attitude toward green hotels, subjective norms, and perceived behavioural control exert positive influences on the consumer’s intention to visit green hotels.</td>
</tr>
<tr>
<td>2014 Taiwan</td>
<td>Target Sample Anyone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chia-Jung &amp; Pei-Chun [71]</td>
<td>Sample Size (n = ) 390</td>
<td>Convenience survey</td>
<td>Factors influencing selection of green hotels; selection of green hotels</td>
<td>When tourists select a green hotel, the most important attribute is the provision of personal toiletry items, followed by room and service quality. Willingness to comply with environmentally friendly behaviour and green measures was not a significant determinant in selecting green hotels.</td>
</tr>
<tr>
<td>2014 Taiwan</td>
<td>Target Sample University staff, graduates and students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Esparon, Gyuris &amp; Stoeckl [72]</td>
<td>Sample Size (n = ) 610</td>
<td>Random &amp; intercept surveys</td>
<td>Attitudes toward the 8 attributes of the certification scheme; the perceived importance of each of these attributes; the perceived performance of tourist operators; type of tourism operator the respondent interacted with (accommodation, tour or attraction based business); certification status of tourism operator</td>
<td>At accommodation visitors perceived most aspects of the certification scheme to be important. Consumers do not see certification as an important part of a tourism operator’s environmental policy. Visible environmental initiatives such as the upkeep of clean beaches are more important to consumers than programs that operate “behind the scenes”. Certified operators were perceived to perform better than non-certified operators on all attributes.</td>
</tr>
<tr>
<td>2014 Queensland, Australia</td>
<td>Target Sample Visitors to the Wet Tropics World Heritage Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Main Variables</td>
<td>Key Findings</td>
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<tr>
<td>Horng, Hu, Teng &amp; Lin [73]</td>
<td>Sample Size ($n = $434)</td>
<td>Convenience survey</td>
<td>Energy saving and carbon reduction behaviour</td>
<td>Energy saving and carbon reduction behaviour is little practiced by tourists. Tourists generally did not believe that tourism and related construction cause serious damage to the environment. Convenience is a main concern in practising sustainable behaviour.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Foreign tourists in Taiwan</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan Sample Demographic</td>
<td>Mainland China = 260, Hon Kong &amp; Macau = 131, Japan = 16, South Korea = 10, Southeast Asia = 17</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huang, Lin, Lai &amp; Lin [74]</td>
<td>Sample Size ($n = $458)</td>
<td>Convenience survey</td>
<td>Green customer behaviour, age, gender, environmental consciousness</td>
<td>Statements of environmental protection are regarded more favorably by consumers than cash discounts. Different genders had significantly different green behaviours.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Business customers to hotels</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shanghai, China Sample Demographic</td>
<td>62% male, 38% female</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liu, Wong, Shi, Chu &amp; Brock [75]</td>
<td>Sample Size ($n = $243)</td>
<td>Convenience questionnaire</td>
<td>Brand preference, CSR performance and perceived brand quality</td>
<td>Chinese consumers are beginning to use CSR information to evaluate brands.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Independent travelers who patronise locally managed 3–4 star hotels</td>
<td>Convenience questionnaire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China Sample Demographic</td>
<td>57.7% female, 71.2% were above 32 years old, 80.7% college educated</td>
<td></td>
<td></td>
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<tr>
<td>Noor &amp; Kumar [76]</td>
<td>Sample Size ($n = $216)</td>
<td>Intercept survey</td>
<td>Pro-environmental attitudes, pro-environmental intentions</td>
<td>Individuals who participated in pro-environmental behaviour (those who environmental attitude was more positive), were more likely to choose to stay at a “green” hotel</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Tourists at Kuala Lumpur International Airport</td>
<td>Intercept survey</td>
<td></td>
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<tr>
<td>Malaysia Sample Demographic</td>
<td>56.9% male, 90.8% 26–40</td>
<td></td>
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<tr>
<td>Sirakaya-Turk, Baloglu &amp; Mercado [77]</td>
<td>Sample Size ($n = $1202)</td>
<td>Convenience survey</td>
<td>Pro-environmental values, behaviours; choice of hospitality provider</td>
<td>The sustainability of values of an individual predict an individual’s choice for sustainable hospitality businesses. Two clusters of individuals found: “strong sustainers” (environment supporting), and “centrists-sustainers” (environment-neutral).</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Tourists who had recently taken a round-trip of 200 miles</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA &amp; Canada Sample Demographic</td>
<td>50.5% female, 27.45% 45–54, 84% white</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stumpf, Park &amp; Kim [78]</td>
<td>Sample Size ($n = $917)</td>
<td>Convenience survey</td>
<td></td>
<td>Development of Appreciative—Consumptive Lodging Attribute Scale</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>University Staff</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA Sample Demographic</td>
<td>72.8% female, mean age 34.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zupan &amp; Müfleiner [79]</td>
<td>Sample Size ($n = $234)</td>
<td>Convenience survey</td>
<td>Guests’ perceptions of hotels’ social responsibility; personal values</td>
<td>Small hotels’ guests care about sustainability issues.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Guests of small hotels</td>
<td>Convenience survey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slovenia Sample Demographic</td>
<td>48% male</td>
<td></td>
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</tr>
</tbody>
</table>
Table 2. Overview of producer oriented papers.

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
<th>Sample</th>
<th>Method</th>
<th>Key Variables</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Chan &amp; Hawkins</em> [80]</td>
<td>Sample Size (n = ) 27</td>
<td>Case study: purposive interview</td>
<td>Views of the hotel EMS programmes, how effectively these programmes are perceived to be implemented; views on environmentalism and the hotel market, job satisfaction, job motivation, job role and experience</td>
<td>EMS implementation had both positive and negative effects on personal job satisfaction and job clarity. Low employee involvement in the planning stage did not appear to affect employee commitment to an EMS as long as the correct organisational motivation for implementing the system was communicated.</td>
</tr>
<tr>
<td>2010 Target Sample</td>
<td>Employees of a hotel in Hong Kong</td>
<td></td>
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<tr>
<td>Hong Kong Sample Demographic</td>
<td>5 executive, 7 supervisory and 14 general staff</td>
<td></td>
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</tr>
<tr>
<td><em>de Paço, Alves &amp; Nunes</em> [81]</td>
<td>Sample Size (n = ) 100</td>
<td>Convenience survey</td>
<td></td>
<td>Companies have well established practices that are generally respected by employees, hotels did not perform enough market research on consumers, and rely heavily on the Internet and word-of-mouth</td>
</tr>
<tr>
<td>2012 Target Sample</td>
<td>Employees of hotels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil Sample Demographic</td>
<td>59% women 41% male</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><em>Chou</em> [82]</td>
<td>Sample Size (n = ) 254</td>
<td>Convenience survey</td>
<td>Individual environmental beliefs, personal environmental norms, employees environmental behaviour; employees personal environmental attitudes</td>
<td>In hotels with weaker green organisational climates, there is a stronger relationship between personal environmental norms and employees’ environmental behaviour, compared to hotels with stronger green organisational climates.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Hotel employees</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Taiwan Sample Demographic</td>
<td>74.8% women, mean age 33.8, 68.5% in non-management jobs, 65% had taken environment related courses</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><em>Ferus-Comelo</em> [83]</td>
<td>Sample Size (n = ) Not provided</td>
<td>Case study: purposive interviews and textual analysis</td>
<td></td>
<td>Companies show awareness of the need to adopt more environmentally friendly practices and inform the public through Annual Reports and websites about their measures. Financial savings may have motivated lower energy consumption, but level of water consumption remains high, especially in relation to the availability and use of water.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Hotel employees and managers</td>
<td></td>
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<tr>
<td>India Sample Demographic</td>
<td>Staff of two Indian five-star hotels</td>
<td></td>
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</tr>
<tr>
<td><em>Teng, Hoang, Hu &amp; Chen</em> [84]</td>
<td>Sample Size (n = ) 369</td>
<td>Convenience survey</td>
<td>Employee energy and carbon literacy</td>
<td>Respondents perceive themselves as knowledgeable about environment and climate change, but less familiar with carbon emissions, green architecture and green consumption.</td>
</tr>
<tr>
<td>2014 Target Sample</td>
<td>Hotel employees at international tourist hotels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan Sample Demographic</td>
<td>67.8% female, 51.8% aged 21–30, 49.6% university graduates</td>
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Table 2. Cont.

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
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<tr>
<td><strong>Owners &amp; Managers</strong></td>
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</tr>
<tr>
<td>Deng, Ryan &amp; Moutinho [85]</td>
<td>Sample Size ($n = $) 196</td>
<td>Hotel managers</td>
<td>Systematic random sampling, questionnaire</td>
<td>Hoteliers tend to concur with environmental protection policies, and these attitudes are generally independent of profitability.</td>
</tr>
<tr>
<td>1992 Target Sample</td>
<td>Canada</td>
<td>Sample Demographic</td>
<td>28% trading &lt;5 years under existing ownership, 13% &gt;1.5 years, 61% had less than 30 rooms, 15% had more than 100 rooms. Approximately 78% family owned and managed.</td>
<td></td>
</tr>
<tr>
<td>Firth &amp; Hing [34]</td>
<td>Sample Size ($n = $) 6 Structured interviews with managers (60 guest surveys)</td>
<td>Interview &amp; survey</td>
<td>-</td>
<td>Most hostels focus on recycling, free transport, energy efficient light bulbs, low flow shower heads.</td>
</tr>
<tr>
<td>1999 Target Sample</td>
<td>Byron Bay, Australia</td>
<td>Sample Demographic</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Becken, Frampton &amp; Simmons [86]</td>
<td>Sample Size ($n = $) 120</td>
<td>Hotel, lodge, motor inn 35; B&amp;B, hosted accommodation 22; Motel 20; campground 13; Backpacker hostel 35</td>
<td>Stratified sample survey</td>
<td>Hotels are the largest (net and per capita) energy consumers in the accommodation sector, making up 67% of the total 1.74 PJ consumed in 1999 (4.4% of the commercial sector’s energy use and 0.4% of total energy use in New Zealand).</td>
</tr>
<tr>
<td>2001 Target Sample</td>
<td>New Zealand</td>
<td>Sample Demographic</td>
<td>Energy consumption, accommodation type, business size</td>
<td></td>
</tr>
<tr>
<td>Hobson &amp; Essex [87]</td>
<td>Sample Size ($n = $) 64</td>
<td>Accommodation managers</td>
<td>Stratified sample survey</td>
<td>Managers attitudes to principles of sustainable development, adoption of sustainable practices, characteristics of the respondents (size of accommodation, price range, type of business, age and length of ownership)</td>
</tr>
<tr>
<td>2001 Target Sample</td>
<td>UK</td>
<td>Sample Demographic 44 Small (1–10 rooms); 12 Medium (11–50 rooms); 8 Large (&gt;50 rooms)</td>
<td>-</td>
<td>Modest level of adoption of sustainable practices. The reduction of energy consumption was the most widely integrated activity (86%), although usually for cost-cutting reasons. Other popular practices were buying local, low energy light bulbs, encouraging use of public transport, buying recycled products and recycling glass.</td>
</tr>
<tr>
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<tr>
<td><strong>Rivera [88]</strong></td>
<td>Sample Size ( n = 164 )</td>
<td>Stratified sample survey</td>
<td>Participation in Certification for Sustainable Tourism (a voluntary environmental program); hotel basic characteristics (e.g., size, location, quality rating, and ownership) (Hotels without certification used as a reference group)</td>
<td>Voluntary environmental programs that include performance-based standards and 3rd party monitoring may be effective in promoting beyond compliance environmental behaviour when complemented by institutional pressures exerted by government and trade associations. Foreign-owned and multinational subsidiary facilities are not significantly correlated with higher participation and superior environmental performance.</td>
</tr>
<tr>
<td><strong>Costa Rica</strong></td>
<td>Target Sample</td>
<td>Hotel managers from 52 hotels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ayuso [89]</strong></td>
<td>Sample Size ( n = 30 )</td>
<td>Purposive interviews, direct observations and consulting secondary data</td>
<td>Perceptions of the sustainable tourism concept; voluntary environmental instruments implemented;</td>
<td>Hotel managing directors have little awareness of business contribution to environmental sustainability. Hotels apply voluntary environmental instruments as a response to the environmental concern of managers and real or potential stakeholder demands.</td>
</tr>
<tr>
<td><strong>Spain</strong></td>
<td>Target Sample</td>
<td>Hotel managers of Spanish hotels</td>
<td>3 hotels had fewer than 50 rooms; 14 hotels had between 50 and 300 rooms; and 13 hotels had more than 300 rooms</td>
<td></td>
</tr>
<tr>
<td><strong>Chan &amp; Wong [90]</strong></td>
<td>Sample Size ( n = 164 )</td>
<td>Survey</td>
<td>Study identified 8 associated motivational factors that may prompt a hotel to adopt the EMS standard—ISO 14001. The motivation for the adoption of the standard is determined more by internal forces than by external ones.</td>
<td></td>
</tr>
<tr>
<td><strong>Hong Kong</strong></td>
<td>Target Sample</td>
<td>General manager; the EMS manager; Chief engineer of a hotel</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hall [35]</strong></td>
<td>Sample Size ( n = 43 )</td>
<td>Snowball interviews</td>
<td>Attitudes and behaviours towards climate change adaptation and mitigation, small firm tourism entrepreneurs</td>
<td>Climate change was regarded as significant in the future but in the short-term ranked well below other business concerns. If enterprises had been affected by extreme weather events attitudes and behaviours towards climate change differed markedly from those unaffected.</td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
<td>Sample Demographic</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Le, Hollenhorst, Harris, McLaughlin &amp; Shook [91]</strong></td>
<td>Sample Size ( n = 190 )</td>
<td>Survey</td>
<td>Innovation characteristics most influential factors, being highly correlated with the likelihood of adoption of environmentally friendly practices, followed by external environment characteristics.</td>
<td></td>
</tr>
<tr>
<td><strong>Vietnam</strong></td>
<td>Target Sample</td>
<td>Hotel managers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dalton, Lockington &amp; Baldock [92]</strong></td>
<td>Sample Size ( n = 108 )</td>
<td>Convenience survey</td>
<td>Attitudes to renewable energy supply (RES), tourism accommodation providers</td>
<td>9.2% of tourist operators surveyed have some form of RES installation, 16% of villas/cabins and 7% of large hotels. 71% of operators expressed interest in RES. Operators believed industry is resistant to implementation due to RES power supply limitations, reliability and economic viability. Large operations more positive than smaller operations.</td>
</tr>
<tr>
<td><strong>Queensland, Australia</strong></td>
<td>Sample Demographic</td>
<td>-</td>
<td></td>
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<tr>
<td>Citation &amp; Location</td>
<td>Sample</td>
<td>Method</td>
<td>Key Variables</td>
<td>Key Findings</td>
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</tr>
<tr>
<td>Erdogan [93]</td>
<td>Sample Size (n = ) 104</td>
<td>Observation &amp; Interviews</td>
<td>Environmental management practices (Observational); managerial knowledge, attitude and interest in environment and environmental management (Interviews), accommodation type</td>
<td>Small hotels lack the business culture and financial resources to consider environmental policies and practices. Managers do not have an interest nor the technical knowledge for environmental management.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Sample Demographic</td>
<td>5 bungalows, 37 boarding houses, 62 small hotels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Henderson [94]</td>
<td>Sample Size (n = ) -</td>
<td>Textual analysis</td>
<td>Reactions to Indian Ocean tsunami; commitment to CSR, Hotel companies</td>
<td>Several companies expressed concerns about community welfare and the state of the environment and efforts made to promote recovery. Some interest in wider issues of sustainable development, evident in social and environmental relief projects with longer term goals.</td>
</tr>
<tr>
<td>Phuket, Thailand</td>
<td>Sample Demographic</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Holcomb, Upchurch &amp; Okumus [95]</td>
<td>Sample Size (n = ) 10</td>
<td>Content analysis</td>
<td>-</td>
<td>Growing popularity of CSR reporting. Hilton and Accor put greater effort into reporting, however, more could be done.</td>
</tr>
<tr>
<td>International</td>
<td>Sample Demographic</td>
<td>-</td>
<td>-</td>
<td>Operators get little information on green practices from government and ‘green’ organisations. While operators report environmental commitment, this is overshadowed by a pursuit for maximum financial returns</td>
</tr>
<tr>
<td>Leslie [96]</td>
<td>Sample Size (n = ) 120</td>
<td>Purposive survey</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Graci &amp; Dodds [97]</td>
<td>Sample Size (n = ) -</td>
<td>Literature review</td>
<td>-</td>
<td>Reviews reasons for hotel adoption of green practices: cost savings, image, employee loyalty, customer retention, regulatory compliance, risk management, social responsibility, &amp; industry future.</td>
</tr>
<tr>
<td>Canada</td>
<td>Sample Demographic</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>McNamara &amp; Gibson [98]</td>
<td>Sample Size (n = ) 536</td>
<td>Purposive survey</td>
<td>-</td>
<td>Larger facilities were more likely to have implemented environmental initiatives because of greater capital. Some regions had higher environmental initiative implementation rates than others</td>
</tr>
<tr>
<td>Australia</td>
<td>Sample Demographic</td>
<td>33% Apartments/units, 26% motels/lodges, 12% resorts, 11% hotels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Graci [99]</td>
<td>Sample Size (n = ) 100</td>
<td>Purposive interviews</td>
<td>-</td>
<td>Main barriers to implementing sustainable practices: inadequate resources; corporate culture; government bureaucracy; lack of environmental awareness amongst stakeholders</td>
</tr>
<tr>
<td>China</td>
<td>Sample Demographic</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 2. Cont.

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
<th>Sample</th>
<th>Method</th>
<th>Key Variables</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richins &amp; Scarinci [100]</td>
<td>Sample Size ($n = $)</td>
<td>3</td>
<td>Case Study</td>
<td>Water conservation, energy efficiency, waste reduction, clean air and communication were common practices, e.g., recycling programmes; low flow faucets, dimmer switches, window tinting, energy efficient lights/bulbs, linen and towel reuse programmes.</td>
</tr>
<tr>
<td>Florida, USA</td>
<td>Target Sample</td>
<td>Green certified hotels in Florida</td>
<td>Case Study</td>
<td>-</td>
</tr>
<tr>
<td>Ryan &amp; Stewart [101]</td>
<td>Sample Size ($n = $)</td>
<td>1</td>
<td>Case Study</td>
<td>While the hotel is aiding biodiversity efforts in the local area, the water and energy use is substantial. Hotel a poor fit with the conceptual model of ecotourism.</td>
</tr>
<tr>
<td>Dubai, UAE</td>
<td>Target Sample</td>
<td>Luxury Hotel (Al Maha)</td>
<td>Interview</td>
<td>-</td>
</tr>
<tr>
<td>Sloan, Legrand, Tooman &amp; Fendt [102]</td>
<td>Sample Size ($n = $)</td>
<td>11</td>
<td>Interview</td>
<td>The majority of hotels reported that they achieved cost savings and increased market share through implementing sustainable technologies. Employees played a crucial role in the implementation and maintenance of sustainable practices.</td>
</tr>
<tr>
<td>Germany &amp; Estonia</td>
<td>Target Sample</td>
<td>German and Estonian Hotels</td>
<td>Random survey</td>
<td>-</td>
</tr>
<tr>
<td>Dief &amp; Font [103]</td>
<td>Sample Size ($n = $)</td>
<td>89</td>
<td>Random survey</td>
<td>Managers who are younger, and whose company is not overly profit-oriented, tend to engage more in green marketing practices.</td>
</tr>
<tr>
<td>Jackson [104]</td>
<td>Sample Size ($n = $)</td>
<td>23</td>
<td>Interviews &amp; content analysis</td>
<td>Green aspects include fixtures, facilities, supplies, amenities, equipment, services, consumables and practices. Green practices and values need to be communicated and accepted by members of the supply chain.</td>
</tr>
<tr>
<td>USA</td>
<td>Target Sample</td>
<td>Management staff of certified green hotels</td>
<td>Content analysis</td>
<td>Information provided online on energy based environmental practices, presentation of information motivations for presenting environmental information.</td>
</tr>
<tr>
<td>Nelson [105]</td>
<td>Sample Size ($n = $)</td>
<td>50 websites</td>
<td>Content analysis</td>
<td>Most businesses claimed they were providing information as a way to raise awareness and change behaviours. Few considered this information to be of great importance to consumers.</td>
</tr>
<tr>
<td>Prayag, Dookhony-Ramphul &amp; Maryeven [106]</td>
<td>Sample Size ($n = $)</td>
<td>90</td>
<td>Survey</td>
<td>Perceived environmental, cultural, economic and social impacts of hotel development.</td>
</tr>
<tr>
<td>Mauritius</td>
<td>Target Sample</td>
<td>Hotel operators in Mauritius</td>
<td>Survey</td>
<td>Respondents believed hotels should contribute to environmental sustainability and help create positive economic, social and cultural impacts. They did not perceive that hotel development caused negative impacts.</td>
</tr>
<tr>
<td>Mauritius</td>
<td>Sample Demographic</td>
<td>Average hotel studied had been in operation for 22 years, had 153 rooms and employed 236 staff</td>
<td>Survey</td>
<td>-</td>
</tr>
<tr>
<td>Citation &amp; Location</td>
<td>Sample</td>
<td>Method</td>
<td>Key Variables</td>
<td>Key Findings</td>
</tr>
<tr>
<td>--------------------------------------------</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lopez-Gamero, Claver-Cortés &amp; Molina-Azorin [107]</td>
<td>Sample Size ($n = $) 239</td>
<td>Survey</td>
<td>Perception of environmental initiatives to create competitive advantage, attitudes toward the natural environment, the resources of the firm, uncertainty of environmental policies, industry barriers, environmental legislation (voluntary and compulsory), stakeholders</td>
<td>Managers respond better to voluntary industry norms than legislation; stakeholder pressure seems to have a negative effect on managers’ perceptions of sustainability as a competitive advantage.</td>
</tr>
<tr>
<td>Spain</td>
<td>Target Sample (Senior hotel managers)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smerecnik &amp; Andersen [108]</td>
<td>Sample Size ($n = $) 49</td>
<td>Convenience survey</td>
<td>Perceived opinion leadership, perceived advantage of environmental sustainability, simplicity of adoptions, perceived innovativeness of business, sustainability innovations adopted</td>
<td>The simplicity of implementing and operating sustainability innovations was biggest predictor of adoption along with the seniority of opinion leadership. General innovativeness and the perceived advantage of a sustainable innovation is a moderate predictor of adoption.</td>
</tr>
<tr>
<td>USA</td>
<td>Target Sample (Environmental managers of major hotels and ski resorts)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tortella &amp; Tirado [109]</td>
<td>Sample Size ($n = $) 196</td>
<td>Survey</td>
<td>Total hotel water consumption, number of rooms, average occupation level, seasonality, existence of water intensive facilities such as swimming pools and golf courses, their chain affiliation.</td>
<td>Those hotels with lower quality and higher seasonality were more efficient than those higher quality and lower seasonality. Large chain affiliated hotels use the most water.</td>
</tr>
<tr>
<td>Mallorca, Spain</td>
<td>Target Sample (Hotel managers in Mallorca)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mallorca, Spain</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fernández-Alles &amp; Cuadrado-Marqués [110]</td>
<td>Sample Size ($n = $) 1</td>
<td>Case study</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadiz Province, Spain</td>
<td>Target Sample (Hotel Playa Victoria)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cadiz Province, Spain</td>
<td>Sample Demographic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kleinrichert, Ergul, Johnson &amp; Uydaci [111]</td>
<td>Sample Size ($n = $) 10</td>
<td>Content analysis</td>
<td>Environmental management systems used, location (Istanbul or San Francisco)</td>
<td>San Francisco hoteliers emphasised compliance with LEED certification in online marketing. Istanbul hotel websites were less specific, advertising compliance with a range of programmes.</td>
</tr>
<tr>
<td>San Francisco, USA &amp; Istanbul, Turkey</td>
<td>Target Sample (Boutique hotels)</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 2. Cont.

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
<th>Sample</th>
<th>Method</th>
<th>Key Variables</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicholls &amp; Kang [112]</td>
<td>Sample Size (n = ) 217</td>
<td>Survey (derived from database of local lodging providers)</td>
<td>Familiarity with green schemes, their participation in environmental programmes, adoption of green practices perceived benefits of green schemes, property characteristics; type of ownership, location &amp; size.</td>
<td>Low familiarity of green programmes although higher among chain-affiliated and urban property owners. Urban and chain affiliated property owners had a more positive perception of benefits of green business practices. Large properties were more likely to use green messages in their promotions. Written policy not a strong predictor of adoption of many basic green practices.</td>
</tr>
<tr>
<td>Oreja-Rodriguez &amp; Armas-Cruz [113]</td>
<td>Sample Size (n = ) 187</td>
<td>Census based survey</td>
<td>The environmental managers perception of the environmental performance of the firm according to an 13 point environmental performance or 'EP' construct, hotel type, and quality</td>
<td>Validates use of a 13 point EP construct that can be used to measure and compare the relative EP of hotels. The construct is split into prevention, control and communication. Hotels performed best in the environmental control category and worst in environmental communication and training.</td>
</tr>
<tr>
<td>Sanchez-Oller, Garcia-Pozo &amp; Marchante-Lara [114]</td>
<td>Sample Size (n = ) 216</td>
<td>Convenience survey</td>
<td>Economic performance/business strategy, competitive positioning</td>
<td>Strategies that make clients aware of environmental measures implemented by hotels may improve occupancy levels, and increase sales and added value.</td>
</tr>
<tr>
<td>Zhang, Joglekar &amp; Verma [115]</td>
<td>Sample Size (n = ) 984</td>
<td>Panel data set</td>
<td>Implementation of energy saving initiatives, perceptions of energy saving initiatives</td>
<td>A positive link exists between environmental and operating performance. The performance frontier varies across market segment and location characteristics.</td>
</tr>
<tr>
<td>Becken [116]</td>
<td>Sample Size (n = ) 242</td>
<td>Convenience survey</td>
<td>Implementation of energy saving initiatives</td>
<td>The results identify that there is a substantial gap between the positive perceptions held by operators and levels of implementation.</td>
</tr>
<tr>
<td>Citation &amp; Location</td>
<td>Sample</td>
<td>Method</td>
<td>Key Variables</td>
<td>Key Findings</td>
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</tr>
<tr>
<td>Chan [56]</td>
<td>Sample Size (n = ) 55</td>
<td>Convenience survey</td>
<td>Perceptions of hotels’ green practices’ impact, perceptions of hotels’ green practices</td>
<td>Lower-grade hotels tend to adopt lean green marketing strategies, hotels with larger sizes or environmental management systems are likely to adopt shaded or extreme green marketing strategies.</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Target Sample Hotel managers 61% male/71% 30–49 age group</td>
<td>Convenience survey</td>
<td>Perceptions of hotels’ green practices’ impact, perceptions of hotels’ green practices</td>
<td>Lower-grade hotels tend to adopt lean green marketing strategies, hotels with larger sizes or environmental management systems are likely to adopt shaded or extreme green marketing strategies.</td>
</tr>
<tr>
<td>Fotiadis, Vassiliadis &amp; Rekleitis [117]</td>
<td>Sample Size (n = ) 84</td>
<td>Random survey</td>
<td>Environmental and social benefits for the enterprise, interest in sustainable tourism development</td>
<td>Reasons that inhibit the adoption of sustainability practices for small-hotel entrepreneurs are the high cost of investment and the uncertain payment of the associated cost.</td>
</tr>
<tr>
<td>Greece</td>
<td>Hotels listed on the Greek Chamber of Hotels website</td>
<td>Random survey</td>
<td>Environmental and social benefits for the enterprise, interest in sustainable tourism development</td>
<td>Reasons that inhibit the adoption of sustainability practices for small-hotel entrepreneurs are the high cost of investment and the uncertain payment of the associated cost.</td>
</tr>
<tr>
<td>Su, Hall &amp; Ozanne [118]</td>
<td>Sample Size (n = ) 45</td>
<td>Convenience survey</td>
<td>Likelihood to implement eco-friendly initiatives, participants awareness of eco-friendly initiatives</td>
<td>High awareness of climate change and its negative impacts on industry, but conservative attitudes towards legislation and responsibilities.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Hotels in Taiwan</td>
<td>Convenience survey</td>
<td>Likelihood to implement eco-friendly initiatives, participants awareness of eco-friendly initiatives</td>
<td>High awareness of climate change and its negative impacts on industry, but conservative attitudes towards legislation and responsibilities.</td>
</tr>
<tr>
<td>Wyngaard &amp; De Lange [119]</td>
<td>Sample Size (n = ) 36</td>
<td>Convenience survey</td>
<td>Reduction of water and food waste generated, implementation of eco initiatives</td>
<td>Earthworm farms are able to reduce the amount of food waste that reaches landfills. The direct reuse of harvested rainwater irrigates hotel gardens during summer, decreasing pressure on supplies.</td>
</tr>
<tr>
<td>Cape Town, South Africa</td>
<td>Hotels situated in the City Centre, Atlantic Seaboard and Foreshore</td>
<td>Convenience survey</td>
<td>Reduction of water and food waste generated, implementation of eco initiatives</td>
<td>Earthworm farms are able to reduce the amount of food waste that reaches landfills. The direct reuse of harvested rainwater irrigates hotel gardens during summer, decreasing pressure on supplies.</td>
</tr>
<tr>
<td>Ali, Mashal, Mohsen &amp; Mustafa [120]</td>
<td>Sample Size (n = ) 98</td>
<td>Stratified sampling survey</td>
<td>Level of environmental concern of hotels towards the environment</td>
<td>Classified hotels show a higher level of concern toward protecting the environment, particularly 5 star hotels. Regardless of classification, the focus is on water and energy saving procedures.</td>
</tr>
</tbody>
</table>
**Table 2. Cont.**

<table>
<thead>
<tr>
<th>Citation &amp; Location</th>
<th>Sample</th>
<th>Method</th>
<th>Key Variables</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cherapanukorn &amp; Focken [121]</td>
<td>Sample Size ( n = ) 10</td>
<td>Content analysis</td>
<td>-</td>
<td>Most of the hotel groups report about CSR activities in a detailed way except for Aman Resorts.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>Hotel websites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>Sample Demographic</td>
<td>Top 10 Asian Luxury hotel brands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coles, Zschiegner &amp; Dinan [122]</td>
<td>Sample Size ( n = ) 417</td>
<td>Survey (Invited to participate by regional tourism board from the board’s database. Randomly selected by board)</td>
<td>-</td>
<td>Over 80% of respondents believe that responding to climate change is the morally right thing to do. Over 70% recognised the competitive advantages of environmental management. Environmental management was the third most important business priority in the next 3 years.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>Accommodation providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South-west England</td>
<td>Sample Demographic</td>
<td>B&amp;B (14.1%), full service hotels (3.6%), farmhouses (3.4%), general self-catering (27.6%), guest accommodation (28.3%).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>de-Miguel-Molina, de-Miguel-Molina &amp; Rumiche-Sosa [123]</td>
<td>Sample Size ( n = ) 61</td>
<td>Convenience survey</td>
<td>Sustainable image, sustainable management, willingness to sacrifice activities, willingness to sacrifice services</td>
<td>Deluxe resorts with high sustainable management levels are willing to sacrifice activities and services. Resorts with high sustainable image levels are less predisposed to sacrificing services and activities.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>Hotel Managers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Polynesia, the Seychelles and the Maldives</td>
<td>Sample Demographic</td>
<td>7 from French Polynesia, 14 from the Seychelles, and 40 from the Maldives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garcia-Pozo &amp; Sanchez-Ollero &amp; Marchante-Mera [124]</td>
<td>Sample Size ( n = ) 106</td>
<td>Survey</td>
<td>The implementation of green-practices, labour productivity</td>
<td>Implementation of green practices can increase labour productivity by 6.15%–7.51%.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>Hotels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andalusia, Spain</td>
<td>Sample Demographic</td>
<td>96 4-star, 10 5-star</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mackenzie &amp; Peters [125]</td>
<td>Sample Size ( n = ) 52</td>
<td>Purposive interviews</td>
<td>-</td>
<td>Firm size strongly influences the level of CSR integration in organisations. Small hotels oriented towards short-term goals, larger hotels use CSR as a marketing tool. Effective CSR needs recognition in mission statements. Role modeling leads to stronger CSR implementation.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>HRM’s from high-tier and mid-tier hotels, members of the Hong Kong Hotels Association</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Sample Demographic</td>
<td>8 female, 4 male participants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tsai, Wu &amp; Wang [126]</td>
<td>Sample Size ( n = ) 246</td>
<td>Quota survey</td>
<td>Green hotel attitudes</td>
<td>Managers of hotels have significantly higher green hotel attitudes than travel agencies. The difference is highest in “energy conservation” and “cognitive attitude in knowledge”.</td>
</tr>
<tr>
<td>2014</td>
<td>Target Sample</td>
<td>Hotel managers and travel agency managers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwan</td>
<td>Sample Demographic</td>
<td>132 hoteliers, 114 travel agency managers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The most common study location by region was Asia, with 36.1% of all of the papers being carried out there. Europe follows with 19.6% of the studies, and the least popular study locations were Africa (5.2%), the Middle East (3.1%), and South America (2.1%). Table 3 provides a more detailed breakdown by country and shows that the USA, Taiwan, and Spain have been the most studied locations. The relative lack of research in Africa and South America is reflective of the overall amount of climate change related tourism research noted in IPCC reports [18,127]. However, this is not the case with Asia in which there is very limited reporting in IPCC reports [18,128], although there is a growing interest from researchers and institutions, such as the UNWTO [127].

Table 3. Study locations in papers.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Consumer</th>
<th>Producer</th>
<th>Total</th>
<th>Country/Region</th>
<th>Consumer</th>
<th>Producer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Jordan</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>Malaysia</td>
<td>2</td>
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<tr>
<td>Austria</td>
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<td>0</td>
<td>1</td>
<td>Maldives</td>
<td>0</td>
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<td>1</td>
</tr>
<tr>
<td>Belize</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>Mauritius</td>
<td>0</td>
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<tr>
<td>Brazil</td>
<td>0</td>
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<td>1</td>
<td>Nepal</td>
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<td>1</td>
</tr>
<tr>
<td>Canada</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>New Zealand</td>
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<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Canary Islands</td>
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<td>1</td>
<td>Portugal</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>China</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>Seychelles</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Costa Rica</td>
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<td>1</td>
<td>1</td>
<td>Slovenia</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Crete</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>South Africa</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Egypt</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Spain</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>England</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>Sri Lanka</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Estonia</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Taiwan</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>French Polynesia</td>
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<td>1</td>
<td>Thailand</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Turkey</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Ghana</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>United Arab Emirates</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Global</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>UK</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>USA</td>
<td>12</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>India</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>Vietnam</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>56</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With respect to accommodation types, hotels were specifically focused upon in over 70% of the studies, and were also studied in conjunction with other accommodation types (Table 4). Research was therefore focussed on formal accommodation businesses. All research that looked at the perceptions, attitudes and knowledge of employees was conducted in the formal hotel sector. There was therefore only limited research on other forms of lodging, such as self-catering accommodation and B&Bs, even though these may be significant in many destination contexts. No studies of second homes were included in the papers that were reviewed even though their contribution to tourist bed-nights and resource use as self-catering or rental accommodation is extremely significant for many destinations [129,130].

In terms of methods, the most common data collection method of all of the studies were questionnaires or surveys (Table 5). Over two-thirds of the studies were based primarily on questionnaires/surveys, one study combined surveys with focus groups and another with interviews. One paper also utilised panel data. The next most common research method was interviews (eight papers) sometimes in conjunction with by case studies and content analysis. One of the clear limits in the data set is the lack of quantitative analysis of actual reductions in energy or water use, or waste in conjunction with research on attitudes and behaviours.
### Table 4. Accommodation type studied in paper.

<table>
<thead>
<tr>
<th>Type</th>
<th>Consumer</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel*</td>
<td>27</td>
<td>34</td>
</tr>
<tr>
<td>Non-specified (Lodging in general)</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>Complete range of accommodation and lodging providers (e.g., hotels, lodges, self-catering, cabins, B&amp;Bs, farmstays)</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Certified accommodation (e.g., ecolodge, green hotel)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hotels and cabins</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Small-sized tourism accommodation</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Backpackers*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Hotels and ski resorts</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Resort</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Rural accommodation businesses</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total number of papers</strong></td>
<td>93*</td>
<td></td>
</tr>
</tbody>
</table>

* Includes studies examining both consumer and producer dimensions.

### Table 5. Primary research method.

<table>
<thead>
<tr>
<th>Primary Research method</th>
<th>Consumer</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Owners &amp; Managers</td>
<td>Employees</td>
</tr>
<tr>
<td>Survey or Questionnaire</td>
<td>37</td>
<td>27</td>
</tr>
<tr>
<td>Interview</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Case Study</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Content Analysis</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Experiment</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Observation and Interviews</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Factorial Experimental Design</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Survey and Focus Group</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Interview and Survey</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Interviews and Content Analysis</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Literature Review only</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Textual Analysis</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Panel Data Set</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total number of papers</strong></td>
<td>93*</td>
<td></td>
</tr>
</tbody>
</table>

* Two studies examined both consumer and producer dimensions.

Sampling methods were more dispersed across the studies (Table 6). The most common sampling method was based on convenience (36 studies). Twelve consumer related studies used the intercept method. Purposive sampling was used with the second most widely used method with producer related studies. However, many studies did not state their sample method.

### Table 6. Stated sampling method.

<table>
<thead>
<tr>
<th>Sample Method</th>
<th>Consumer</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Owners &amp; Managers</td>
<td>Employees</td>
</tr>
<tr>
<td>Convenience</td>
<td>22</td>
<td>13</td>
</tr>
<tr>
<td>Intercept</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Purposive</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Random</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Stratified</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Judgment</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Census</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Snowball</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Quota</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Random and intercept</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Quasi-random</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Systematic random sampling</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Unstated/unclear</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td><strong>Total number of papers</strong></td>
<td>93*</td>
<td></td>
</tr>
</tbody>
</table>

* Two studies examined both consumer and producer dimensions.
The sample size of the studies with respect to the number of respondents ranged from one to 2308 (Table 7). Those studies with a very small sample size were usually hotel case studies. Studies with larger sample sizes consisted of questionnaires or surveys.

Table 7. Sample size of studies (number of respondents).

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Consumer</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Owners &amp; Managers</td>
<td>Employees</td>
</tr>
<tr>
<td>0–50</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>51–100</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>101–150</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>151–200</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>201–250</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>251–300</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>301–350</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>351–400</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>401–450</td>
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</tr>
<tr>
<td>451–500</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>501–600</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>601–700</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>701–800</td>
<td>0</td>
<td>0</td>
</tr>
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<td>801–900</td>
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</tr>
<tr>
<td>901–1000</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1001–1500</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>1501–2000</td>
<td>0</td>
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</tr>
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<td>2001–2500</td>
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<td>2501–3000</td>
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<td>3001–3500</td>
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<tr>
<td>3501–4000</td>
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<td>4001–4500</td>
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<td>0</td>
</tr>
<tr>
<td>4501–5000</td>
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<td>0</td>
</tr>
<tr>
<td>Not provided</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>45</td>
</tr>
</tbody>
</table>

* Two studies examined both consumer and producer dimensions.

4. Discussion and Conclusion

Several studies found that individuals who already participated in general pro-environmental behaviour or consumption practices were more likely to choose to stay at a green hotel, over those who did not [67,76]. A consumer’s “green” attitude is therefore a key mediator of their intention to stay at a green hotel [77]. However, context is also important. Although normative motives are the dominant determinant of pro-environmental behaviour in a household setting, hedonic motives appear a stronger predictor of such behaviour in a hotel setting [62]. Some studies observed that because green hotel rooms are often more expensive than non-green hotels, higher income bracket consumers are more likely to stay at green hotels, while consumers have reported being willing to pay a 1.5%–6% premium for green hotels [39,41,53], although the long-term maintenance of such premiums is unknown given the widespread adoption of at least some sustainability measures, e.g., reuse of towels, by lodging properties. Those consumers with a higher knowledge of green hotels and their practices were more likely to stay in them [52], although experiences of sustainable practices may have a positive effect on environmental attitudes and behaviours [37,60]. Nevertheless, there were some papers that observed a gap between consumers’ intentions to stay at green hotel and their actions to do so [43]. The most common sustainable hotel practices that customers appeared to value and think of were the use of recycle bins and recycled products, as well as reusable towel and linen schemes [39,47,63]. Inconvenience remains a powerful barrier to consumers in adopting sustainable practices in hotels [67].
Firm size appears to have a significant impact on the sustainable practices of accommodation operations [56,92,112,118,120]. Larger hotels implement more effective and longer-term green initiatives [98,125]. This was mainly due to a high level of capital, and a strong business culture, and with some evidence of the importance of being part of an international chain for which sustainability is being incorporated in brand values as well as CSR initiatives [118]. Although other studies found that foreign-owned and multinational subsidiary firms were not significantly correlated with higher participation in sustainable certification schemes and superior environmental performance [88]. Regulatory and cultural context is therefore clearly significant [3,7]. Barriers to implementing sustainable practices were noted as being inadequate resources, level of investment, lack of awareness amongst stakeholder, and the pressure to make maximum financial returns [99]. Perhaps not surprisingly, the Internet and social media are noted as an important channel to communicate hotels’ green initiatives [81], while hotel employees’ and managers’ knowledge and attitudes were regarded as essential to the implementation and success of green initiatives [102]. Although, it should be noted that the amount of studies that looked at employees’ attitudes and behaviours as compared to that of managers and owners was extremely limited. Furthermore, there is little research that actually looked at implementation practices and measured changes in indicators of sustainability, rather than relying on self-reporting and perceptions of change. In the New Zealand context, a substantial gap was reported between the positive perceptions held by operators of their energy saving initiatives and actual levels of implementation [116].

Hotels’ most common green practices appeared to be water conservation, energy efficiency and waste reduction [100,120], and they were known to adopt these practices due to cost savings, response to environmental concerns and when there was simplicity in implementing and operating sustainable practices [97,102,117]. Although not a central research focus, there is also limited evidence that accommodation and lodging businesses were more likely to be positive towards green practices if their area had been affected by a natural disaster or extreme weather conditions [35].

This systematic review on the behaviour and attitudes of consumers and producers towards sustainable accommodation has indicated a number of significant issues in the conduct of research. The English language literature is geographically and culturally uneven with few papers from Africa and South America and with most from the United States, Hong Kong, and Taiwan. The majority of studies used surveys or questionnaires as their main form of data collection, and the most common sampling method used was convenience sampling. There is relatively little duplication in the survey questions used in different studies which makes accurate comparisons between the results of papers difficult. Even more concerning, only one longitudinal study had been conducted which raises a number of issues regarding the tracking of consumer and lodging provider behaviour change. There is clearly substantial need for monitoring material flows over time while simultaneously tracking the attitudes of managers, staff and customers as well as the impacts of new technologies and interventions so as to develop a more comprehensive understanding of the interplay between the various activities that can lead to positive change. Similarly, there are few studies that clearly indicate the results of any intervention into influencing consumptive behaviour and none of these are tracked over time—the assumption clearly being made that changes in messaging, for example, will be maintained as the resultant behaviours have become new norms, even if those messages may then be removed from hotel rooms. Such long-term tracking is essential, for example, to compare the value of norm and non-norm approaches to encouraging customer behaviours [42,70], while the potential value of norm-based approaches for staff and managers is also a potentially significant area of study [82]. However, it must be emphasised that norm-based approaches, while having significant potential, also need to be examined in a far wider cultural context than what has so far been the case. In addition, there is insufficient reporting of the actual changes to quantities of energy, food and water consumed, or the production of waste which any intervention has influenced. We do not know, for example, whether any rebound effects have occurred so that reductions in consumption and/or waste in one area of an organisation have been accompanied by increases elsewhere [131].
A clear outcome of the study therefore is that there is a greater need for integrated long-term studies of accommodation and lodging firms and their consumers. Although environmental management systems approaches [7], for example, highlight the need for inclusion of all stakeholders in improving system sustainability, this is not reflected in the literature. Only five studies included lower level employees in assessments of sustainable behaviour and practices [80–84], even though they are the staff who actually implement any intervention. There is therefore a clear need for studies that seek to compare not only the attitude and behaviour gaps within stakeholder groups, such as consumers and managers, but also between such groups, and then seek to chart how practices change and are maintained over time in light of any differences in physical infrastructure and/or behavioural interventions.

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Conflicts of Interest: The authors declare no conflict of interest.

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