

## Research Paper

# Sustainability in Higher Education: An Exploratory Investigation of Hospitality Management Courses

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**Abstract:** This paper aims to investigate students' perceptions about sustainability curricula in hospitality management degree programmes. Sustainability, a prime business concern, is now a prominent agenda in higher education, and also in hotel management courses. The study is located in India and adopts a positivist epistemological position. Quantitative data was collected through structured questionnaires from 250 undergraduate students undergoing hospitality degree programmes in the states of Jammu and Kashmir. Data analysis was done through descriptive and inferential statistics using SPSS. The findings establish that students are engaged in environmental literacy and view this as an important concern for their future. Respondents who demonstrate greater awareness and concerns in everyday life attach greater importance to such issues in a business context also. Lastly, the mode of delivery of sustainability-related modules deeply impacts students' attitudes toward this all-important agenda. Sustainability education is most effective when it is embedded into all aspects of the course or forms the overall context within which hospitality management courses are delivered.

**Keywords:** Sustainability, student perceptions, education for sustainable development, India, curriculum

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## Introduction

Since its ascension to international platforms through the Brundlandt Commission Report (World Commission for Environment and Development, 1987), sustainability has become the most prominent socio-political agenda at the global level. As the concern for prudent management of non-renewable resources grew, sustainability was embraced as a prime concern for federal and local governments, media, customers, local communities, academics and businesses alike (Bader, 2005; Nichols, 2007).

Given these developments, it is hardly surprising that sustainability-related topics are an integral part of many business management degree programmes, including hospitality courses. Tourism studies generally tend to approach sustainability-related issues from a policy and planning perspective (Herremans, 2006). Deale, Nichols, Jacques and Jacques (2009) argue that inclusion of education for sustainable development (ESD) has been a very significant paradigmatic shift within higher education in recent times. To further highlight the relevance of this change, the United Nations declared 2005-2014 as the Decade for Education in Sustainable Development, which aims to promote education as a basis for a more sustainable human society (UNDESD, 2011). Many other commentators agree that sustainability is finding its place within mainstream curricula in hospitality management courses, rather than being just an interesting alternative (Boley, 2011). This is crucial for the future viability of the industry itself, as the hospitality and tourism sector shares a unique, symbiotic relationship with natural and cultural resources (Office for National Statistics, 2011). The tourism industry exploits these resources (often excessively so, as has been widely reported) and at the same time depends on them, for its own survival, to seduce the tourist. Sustainability, therefore, is a key business imperative for the industry's viability and continued growth.

It can therefore be argued that continued sustainability of the industry itself is dependent on qualified professionals who can accept sustainable development principles as part of their management values. Although inclusion of the sustainability agenda within hospitality curricula makes good sense, as it is widely perceived as the way business will be done in the 21st century (Deale et al., 2009; Jurowski & Liburd, 2001), student perceptions in this respect has been minimally studied (Kagawa, 2007). This paper therefore addresses this gap and aims to explore students' perceptions about sustainability-related discourse. Previous studies tend to focus excessively on the curriculum (Deale et al., 2009; Wright, 2003), while ignoring other factors in ESD. Likewise, perceptions of academics and curriculum developers and those of the industry have been the focal point of many previous investigations (Bridges & Wilhelm, 2008; Deale et al., 2009; Millar & Park, 2013). Students are an important group of stakeholders, although their interest in this debate is an underexplored agenda in recent scholarship (with a few notable exceptions such as Barber, Deale, &

Goodman, 2011; Chen & Jeong, 2009). This finding is rather surprising, as learners can play a critical role in negotiating effective curricula. Therefore, this study chooses to explore students' perceptions on matters of environmental literacy and aims to address the gap in this knowledge. The study is located in India, not least due to her recent economic mobilisation, but also because many aspects of sustainability are deeply embedded within the Indian education policy (Chhokar, 2010), making India a unique and valid context in which to base this research.

The study argues a strong case in favour of ESD, by establishing that effective sustainability curricula can indeed impact on behavioural intentions positively. Likewise, it has been argued that such curricula can only be effective if sustainability is integrated through all aspects of the curricula. This is a significant outcome, implying that hospitality management curricula need a fundamental change to embrace sustainability. Another significant contribution this study makes is to conclude that the mode of delivery of sustainability education (SE) profoundly impacts on students' learning and attitude towards this all-important agenda. This paper is therefore a call for considering innovative methods of integrating sustainability with traditional hospitality curricula.

### **Literature Review**

Although the concept of sustainability is not new and has been a business concern since early 20th century, the literature is more than fragmented and the idea has been conceptualised and viewed differently by scholars and practitioners. The Brundlandt Commission took the lead and postulated one of the earliest (and one of the most cited) definition establishing the need for simultaneous resource conservation and exploitation and also inter- and intra-generational equity (WCED, 1987). The prime focus of the highly publicised *Our Common Future* report was clearly natural environment and social progress. This development was followed by many international conventions, such as the Kyoto Protocol and the adoption of Agenda 21, further drawing public attention towards the sustainability agenda. Subsequently, Elkington (1997) published his seminal work titled *Cannibals with Forks* and argued that sustainability cannot be limited to environmental management only, but instead should be a multi-dimensional construct. Elkington famously coined the Triple Bottom Line (TBL) and observed that true sustainability can only be achieved when a balanced approach towards environmental, social and economic equity is adopted. Thus, sustainability was established as a multifaceted construct and is now commonly understood based on these three pillars (Mowforth & Munt, 2009). A commonly adopted view is that human welfare and health (people) and economic growth and prosperity (profit) are inextricably embedded within the natural environment and resources (planet).

However, this impact-based view is only partially supported in contemporary literature. Ben-Eli (2004), for example, viewed sustainability from a carrying-capacity perspective, and noted that it is important to reach the full potential of the population, albeit without destroying the resources that help to mobilise the same. Harrison (2001) understood the concept as a journey rather than as a destination and therefore argued that the term “sustainable development” be used instead. His work clearly implies that absolute sustainability may never be achieved, as our needs and wants expand and consequent demands on natural resources continue to grow. Although many other definitions exist, a common feature among them is long-term commitment and a comprehensive view of business awareness of its impacts. Likewise, adopting a balanced approach towards development has been explicitly advocated in most of these studies. However, others have completely rejected such views as works of fallacy. Critics such as Dryzec (2005) remain sceptical and suggest that the sustainability agenda’s global popularity is based upon its “rhetoric of reassurance”, where economic prosperity, social justice and environmental preservation can co-exist in harmony. Kagawa (2007) supported this view and set the environment against social and economic issues, rather than viewing it as essentially complimentary. Despite such disagreements and competing perspectives, sustainability is now an integral part of corporate strategy and the same is true for the global hospitality industry. The following discussions elaborate on some of the key sustainability-related developments within higher education.

### **Sustainability in Higher Education**

Palmer (1998) elaborately defined environmental education as the process of determining values and developing skills and attitudes to appreciate the relationship between humans and their environment, with the ultimate goal of establishing standards of behaviour. A review of recent scholarship within the higher education domain reveals that sustainability-related education has been widely supported. It is worth highlighting that over 400 universities worldwide have signed the Talloires declaration, a blueprint for incorporating sustainability in learning, teaching and operations. Barber et al. (2011)’s empirical study established that industry professionals, students and hospitality educators alike support the view that students need to be thoroughly informed about sustainability and related issues. Wright (2007) reminded us of the basic purpose of higher education and posited that colleges and universities are communities of learning, adding that this effectuates the responsibility to secure quality of life for future generations and to educate future decision makers. Wade (1999) also placed the responsibility on the higher education sector and observed that, although students do possess a tacit knowledge of sustainability, it is for higher education institutions to make a real difference and to act as agents for change. In fact, many scholars argue that sustainability and

education are interlinked disciplines and that any separation is neither possible nor desirable. As Aber, Kelly, and Malory (2009) stated, “sustainability is fundamentally about education, as it presents long-term questions by asking what is best and why”. It must also be clarified at this juncture that, although the acronym ESD is widely used, sustainability education (SE) is the other commonplace terminology used within this discipline. Kevany (2007) made no distinction between these – apart from the scale, linking the former to government stewardship and the latter to corporate stewardship. Dale and Newman (2005) agreed and observed that both terms have a common goal of reconciling critical social, ecological and economic problems that the world faces. We therefore opted to use these two terms interchangeably for the purpose of this paper.

Many recent studies have argued for the need to embed ESD in modern curricula. The key debates not only focus on higher education assuming responsibility, as discussed earlier, but are also reflective of greater student interest in learning about the subject. Rogers (2013) reported that Generation Y is a “born-green” generation and their concern is now influencing organisational leadership to adopt more positive views towards responsible management. They are clearly empowered through easily accessible information. Williams and Page (2011) and Kagawa (2007) agreed and noted that Gen Y is not only aware, but is also very concerned about such issues. However, the concern is also coupled with increased scepticism within this generational cohort (Bhaduri & Ha-Brookshire, 2011), owing to widely publicised cases of greenwashing. Somewhat surprisingly, such interest is not always supported with knowledge about specific sustainability issues (Gam, 2011; Wilhelm, 2009). This might explain the incongruity in action and higher education must accept some responsibility for the same. It is interesting to note that all prime stakeholders have universally expressed the need for SE in higher education, although their interest levels and prioritisation of the main agendas might differ. This discourse is explored further later.

### **SE / ESD in Hospitality and Tourism Higher Education**

A review of current literature indicates that SE in the hospitality context is a highly under-explored area of research and still in its infancy (Deale et al., 2009). Boley (2011) advocated an integrated approach in embedding sustainability within all aspects of hospitality education and further noted that this is the “ethical” thing for curriculum developers to do. He strongly argued the case and posited that SE can enhance employability and will produce graduates that can enhance a destination’s triple bottom line. He also postulated that the complexity of this subject area will propel the students towards higher-order learning as per Bloom’s Taxonomy (Bloom & Krathwohl, 1956). Integration across courses is very important, given the interdisciplinary nature of hospitality education. Jurowski and Liburd (2001, p. 1)

captured a similar sentiment too, and stated “when students are taught how these principles are related to specific management functions in various courses, they will be better prepared to apply them in the management of hospitality and tourism operations”. Millar and Park (2013) also supported this line of reasoning and argued that the curriculum must be designed in such a way that the students understand the inter-relatedness between operations, finance and society. They also recommended contextual learning (food and beverage, events, lodging), as this can result in more specific and actionable techniques. Harnessing practical competences is important, so that students are able to make the most optimal decisions in an ever-changing environment. Boley (2011) and Clarke (1997) took this discourse a step further and advocated a fundamental paradigmatic shift. The scholars argued that hospitality and tourism education must be situated within the context of sustainability (rather than the other way round), otherwise, the latter will always remain a component thereof. Instead, sustainability should be the end result of hospitality education. To sum up, despite broad differences in approaches adopted towards SE, it is becoming an integral part of higher education, more specifically, hospitality education. However, students’ perceptions of ESD form a largely unknown variable and is therefore the key agenda that this paper aims to pursue.

### **ESD / SE – A Stakeholder Perspective**

SE involves a wide variety of stakeholders, although they are much divided in their views and interests. According to Barber et al. (2011), industry professionals are highly concerned about SE. The key issues, according to hospitality managers, are changing consumer behaviours and demands and inconsistent legislation. It is hardly surprising that the industry is very keen to incorporate the economic aspect of sustainability in ESD. This research further establishes that employers are actively seeking sustainability knowledge in students’ educational backgrounds. Millar and Park (2013) have also investigated the industry’s perspective and observed that the hospitality industry is not only expecting theoretical inputs into environmental management, but also expects graduates to be able to apply them in their jobs. The industry is keen to recruit graduates who are able to operationalise the concept without losing sight of business profitability. Their study established that the industry expects hospitality management graduates to take the lead and to educate their managers and company owners in a relevant and conceivable manner. Clearly, sector-specific sustainability knowledge is absolutely critical to achieving these goals.

Scholars and academics are equally enthusiastic about SE. Deale et al. (2009) observed through their empirical research that hospitality educators are keen to teach sustainability-related matters, although the dominant focus is on environmental literacy. Even if sustainability was not built into the curriculum, they voluntarily discuss these issues in their courses. Hospitality educators are of the firm belief

that sustainability-related curricula will not only increase students' interest in these matters (Cordano, Ellis, & Scherer, 2003) and induce pro-environmental behaviours (Zelezny, 1999), but can also prepare them in facing the crucial challenge of prudent resource management, understood as the single most important issue facing the global hospitality industry. Academics also adopt a more general approach to SE and depart from viewing sustainability as a core business objective. Instead, they place greater value on personal ethics and hope to develop these within their students (Barber et al., 2011). With this objective in mind, hands-on, experiential learning is the most commonly adopted method of sustainability teaching (Deale et al., 2009).

Research by Barber et al. (2011) further established that students also demonstrate a keen interest in learning about sustainability. Chen and Jeong (2009) confirmed that students believe that such knowledge enhances employability and can help their future career development. For this reason, there is an increased demand for such courses from the students, as they wish to have at least one environmental course "on their transcript". Eber (2002) argued that students adopt a rather narrow view of the sustainability agenda and therefore attach greater importance to the highly publicised issues of pollution and climate change. Despite a high level of interest from all key stakeholders, many commentators rue the fact that SE in hospitality education is less than strategic and therefore lacks focus and relevance. As will be discussed later in this paper, universities have approached ESD in a varied manner and the curricula are very fragmented. This creates significant problems, as will be discussed in a subsequent section. There is clear scope for collaborative effort, as far as ESD is concerned, to maximise sustainable values in the industry leaders of tomorrow. To achieve this, all stakeholders' needs must be met. Although there is some research investigating the industry's and academia's perspectives (Barber et al., 2011; Boley, 2011), studies investigating student motivations, needs and attitudes towards SE are scant. This knowledge gap has been addressed through this paper as this paper investigates hospitality management students' perspectives on this all-important agenda. In addition, the impact of SE on students' attitudes and future decision-making has been unclear; another theme that has been explored in this study. The study therefore offers some interesting insights not only into teaching, but also into learning sustainability. This may be invaluable as far as designing future hospitality curricula is concerned.

## **Methodology**

This research is exploratory in nature, as the paper aims to investigate a phenomenon where little is previously known (Kumar, 2011). Most previous studies have focused on the needs of the industry and relatively few studies have investigated students' perspectives on SE. The study is located in Jammu and Kashmir in India and primary data was collected from students at four public universities in the state. The

paper adopts a positivist tradition, as the study aims to search for regularities and casual relationships in the data (Gill & Johnson, 2010). Admittedly, perceptions, the key focus of this paper, can be personal and subjective. However, it was important for the authors to conduct this research in a value-free way (Saunders, Lewis, & Thornhill, 2012). With this reasoning, positivism was considered the most suitable epistemological position. By extension, this research paper is quantitative in nature. Primary data was collected through surveys of students.

Structured questionnaires were distributed to students enrolled in hospitality management courses at participating universities. The questionnaires included a mix of open- and closed-ended questions. List questions and Likert rating-type questions were included to obtain numerical data. A total of 14 questions covering a range of issues were asked. The questions were based on key issues that emerged from the literature review. The initial questions were broader in scope and were included to assess the respondents' general understanding of the sustainability agenda and the importance they attach to such concerns in everyday life. More focused questions followed, investigating the nature of sustainability courses on taught programmes. Another set of questions aimed to assess the impact of ESD on students' attitudes towards this issue and also whether SE had influenced their future intentions to act in a more responsible manner. The complete questionnaire can be found in the appendix.

The size of the study population was 850 (the number of students enrolled in undergraduate programmes at participating universities). The sample size was calculated using Krejcie and Morgan's formula. For a population of 850, with a confidence level of 95% and a margin of error of 5%, the sample size calculated was 265. Accordingly, 270 questionnaires were distributed to willing participants, of which 250 completed ones turned out to be useful and were included in the analysis. The convenience sampling method was employed to recruit willing participants. Although this sampling method has been widely criticised as being the least generalisable (Bryman & Bell, 2003), it is also the least expensive and most efficient. As one of the authors was based at one of the participating universities at the time of data collection, access to respondents was easy. Participants were selected without any bias, as long as they were willing to participate. Saunders (2012) pointed out that samples chosen for convenience often meet purposive sample-selection criteria relative to research aims.

Validity and reliability were checked using Cronbach's alpha to establish confidence levels of 95% in the results. A pilot study was conducted with a small sample of postgraduate students. The pilot study yielded largely positive results and only minor modifications were made to the instrumentation. The study did not distract respondents from their everyday, natural social settings. Therefore, ecological validity can be established (Cicourel, 1982). External validity of the results

can be argued by transparency within the research process and also by ensuring a representative sample, as explained earlier (Bryman & Bell, 2011). Statistical tools were employed for data analysis. Prior to analysing, all primary data sets were coded and entered into Excel spreadsheets. Subsequently, the same were imported into SPSS for statistical analysis. Descriptive statistics were used and subsequently, inferential statistical techniques were employed to test for significant correlation between variables. Qualitative data obtained through open-ended questions was also codified and analysed quantitatively.

### **Data Analysis**

The questionnaire started with more general questions assessing the students' understanding of sustainability. An overwhelming majority (82%,  $n=205$ ) responded that the term is rather unclear. This finding is hardly surprising, as it has also been indicated in the literature. Sustainability has been understood differently by scholars, practitioners and other stakeholders (Harrison, 2001; Kevany, 2007). Therefore, the need for a serious pedagogical discussion is evident, defining the boundaries of sustainability discourse. There is a clear need to unpack the agenda, as the complexity of sustainability discourse itself is acting as a serious barrier to SE (Kagawa, 2007). A majority of respondents ( $n =180$ , 72%) agreed that they articulate sustainability as an eco-friendly concept. This demonstrates an evident lack of understanding of the complexity of the sustainability agenda, still largely equated with environmental issues (as also previously established by Gam, 2011 and Wilhelm, 2009). Students also voiced concerns about a general lack of awareness and knowledge about this subject. The predominant view is that SE is more philosophical ( $n =200$ , 80%), rather than practical. These findings are concerning as the industry expects graduates to operationalise sustainable management systems in a real business context (Millar & Park, 2013). Subsequent questions asked if participating students attached importance to sustainability-related matters in their everyday lives. The question was intended to assess their general attitude towards this agenda. The mean scores ( $X =7.7$ ,  $SD(x)=2$ ) demonstrate that the respondents show very high levels of concern for sustainability. William and Page (2011) and Kagawa (2007) also supported this position. It can therefore be concluded that the participating students are aware and engaged in sustainability-related matters, although their knowledge about this discourse is very limited.

### **Sustainability in Hospitality Curricula**

Questions then probed whether sustainability was a key element of hospitality management curricula. A vast majority of students ( $n =181$ , 72%) confirmed that ethical literacy is an essential component of their degree programme. The findings

corroborate those from Boley (2011) who noted that sustainability is surely finding its rightful place within mainstream hospitality curricula. What was vexing was that 27% ( $n = 67$ ) of respondents confirmed that the taught programme did not include any element of sustainability. Although somewhat unsurprising, this is certainly perturbing, as sustainability is a prime business concern and knowledge of sustainability is expected by the industry (Millar & Park, 2013). The findings do indicate inertia on the part of curriculum planners and suggest that hospitality education is lagging as far as embracing this important agenda is concerned. Students were then asked how sustainability-related knowledge was delivered in their degree programmes. Table 1 presents the results.

**Table 1.** Delivery of SE in hospitality education

		Frequency	Percent	Valid percent	Cumulative percent
Valid	1.0	40	16.0	16.0	16.0
	2.0	77	30.8	30.8	30.8
	3.0	57	22.8	22.8	22.8
	4.0	43	17.2	17.2	17.2
	5.0	33	13.2	13.2	13.2
	Total	250	100.0	100.0	100.0

Table 1 shows some very positive results, as 31% of respondents confirmed that the sustainability agenda has been well-integrated into their course. Another 23% confirmed that although taught as stand-alone modules, this concept is increasingly permeating other subjects also. This is a largely positive outcome, as literature also supports the view that SE is most effective when integrated through all aspects of a programme (Jurowski & Liburd, 2001). However, the overarching concept within which hospitality education is delivered is still somewhat ambiguous. Boley (2011) and Clarke (1997) established the need to place greater emphasis on SE and showed that hospitality studies should be located within a sustainability context. The results indicate that this is not the case, however, and suggest that the sustainability discourse is a long way away from achieving that level of prominence in hospitality management courses.

### Concerns for the Future

The next question was aimed at examining if responsible behaviour was a prime concern for hospitality management students and their future careers. To assess this, correlational analysis using Spearman's rho and Kruskal-Wallis tests were employed. The first test was conducted to assess if students' everyday concern for sustainability impacts on their future choices. The correlational analysis is presented in Table 2.

**Table 2.** General concern for sustainability and impact on future choices

			ImpELi	PrCon
Spearman's rho	ImpELi	Correlation Coefficient	1.000	.620**
		Sig. (2-tailed)	.	.000
		N	250	250
		<hr/>		
	PrCon	Correlation Coefficient	.620**	1.000
		Sig. (2-tailed)	.000	.
		N	250	250
		<hr/>		

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The results indicate a direct positive correlation between everyday concerns for sustainability and the students' belief that this is an important attribute for future hospitality managers. Table 2 establishes a strong correlation (r=.62) as per Cohen's guidelines (1988). The findings support some of the earlier studies such as Wilhelm (2009) and Williams and Page (2011). At the next stage of data analysis, the Kruskal-Wallis test was conducted to assess whether the method of delivery of SE had any significant impact on students' future concerns for sustainability. The statistical results are presented in Table 3.

**Table 3.** Model of delivery of SE and impact on future choices

	ModDel	N	Mean Rank		PrCon
PrCon	1.0	40	114.54	Chi-Square	18.649
	2.0	77	144.27	df	4.001
	3.0	57	111.58	Asymp. Sig.	
	4.0	43	100.03		
	5.0	33	152.23		
	Total	250			

- a. Kruskal Wallis Test
- b. Grouping Variable: ModDel

The Kruskal-Wallis H test revealed a statistically significant difference in the concerns students have about sustainability and this was strongly affected by the mode of delivery of the module, as indicated by the significance level (sig <.05, p=.001). The mean rank demonstrates that the strongest level of concern is demonstrated by students when sustainability is the overarching concept within which hospitality education is located. Strong positive impacts on their future concerns were also demonstrated when sustainability is well integrated through all aspects of the course.

These findings are significant from the viewpoint of curriculum development and corroborate earlier studies by Shephard (2008) and Boley (2011).

**Benefits of Sustainability**

Respondents were then asked whether they believed that sustainability could bring any real benefits to a hospitality enterprise. Mean scores were calculated, along with standard deviation, and the results ( $\bar{x} = 7.2, SD(\bar{x}) = 2.1$ ) indicate that students view sustainability as a key source of competitive advantage. The results are supported in literature as many recent studies (Bal & Vink, 2011; Ottman, 2010) have reported similar findings. Subsequently, correlational analysis using Spearman’s rho was conducted to assess whether such a positive outlook towards responsibility in a business context was affected by concerns for sustainability in everyday life. The analysis indicates a strong positive correlation ( $r = .52$ ). It can therefore be concluded that students who are concerned about sustainability-related matters also assess that this can bring business benefits, too. The results are presented in Table 4.

**Table 4.** General sustainable concerns and impact on business decisions  
Correlations

			ImpELi	PrCon
Spearman’s rho	Benf	Correlation		
		Coefficient	1.000	.525**
		Sig. (2-tailed)	.	.000
		N	250	250
	ImpELi	Correlation		
Coefficient		.525**	1.000	
Sig. (2-tailed)		.000	.	
N		250	250	

**Theoretical or Applied?**

Respondents were then further probed as to whether sustainability-related modules were taught from a theoretical or an applied perspective. A vast majority of the respondents confirmed that the subject was taught in an applied format ( $n = 177, 71\%$ ). This is an important result, as ecological literacy needs to be delivered in a real-world experiential learning context to be effective (Barber et al., 2011). However, the respondents seemed to contradict themselves when asked what was the most commonly used method for sustainability modules. Table 5 indicates that the lecture method seems to be highly favoured for transmitting sustainability-related knowledge, as demonstrated by the frequency distribution. This is antithetical to active learning approaches advocated in recent scholarship within higher education

(Scales, 2013). Despite this, respondents felt confident ( $x = 7.1$ ,  $SD(x)=1.9$ ) that they can operationalise and implement sustainability in a hospitality context.

**Table 5.** Mode of delivery of SE  
DelMet

		Frequency	Percent	Valid percent	Cumulative percent
Valid	1.0	49	19.6	19.6	19.6
	2.0	30	12.0	12.0	31.6
	3.0	35	14.0	14.0	45.6
	4.0	75	30.0	30.0	75.6
	5.0	51	20.4	20.4	96.0
	6.0	5	2.0	2.0	98.0
	7.0	5	2.0	2.0	100.0
	Total	250	100.0	100.0	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Changing Attitudes and Long-term Behaviour

The respondents were then asked whether SE had any impact on their views and issues on this important discourse. The mean scores ( $x = 7.1$ ,  $SD(x) = 2.8$ ) indicate an overall positive outcome, implying that overall, students are in agreement that the course has altered their views on sustainability positively, and that they are more likely to adopt pro-environmental behaviour having studied sustainability. The findings are in agreement with those of Chen and Jeong (2009), although higher standard deviation scores might indicate some skepticism, as also noted by previous studies (Bhaduri & Ha-Brookshire, 2011; He & Greenburg, 2009). Subsequently, correlational analysis was conducted using the Kruskal-Wallis H test to determine if students' attitudes were significantly affected by the way in which the module was delivered. The results of this testing are presented in Table 6.

**Table 6.** Mode of delivery of sustainability modules and impact on attitudes  
Ranks

	ModDel	N	Mean Rank
AltAtt	1.0	40	119.54
	2.0	77	121.56
	3.0	57	111.99
	4.0	43	118.12
	5.0	33	174.88
	Total	250	

Test Statistics <sup>a,b</sup>		Report		
		AltAtt		
		ModDel	N	Median
Chi-Square	18.791			
df	4	1.0	40	8.000
Asymp. Sig.	.001	2.0	77	8.000
		3.0	57	7.000
		4.0	43	7.000
		5.0	33	9.000
		Total	250	7.000

a. Kruskal Wallis Test  
 b. Grouping Variable:  
 ModDel

As the significance level is .001 (sig<.05), it can be validly concluded that the method of delivery of sustainability-related modules has a profound impact on students’ attitudes, views and concerns for sustainability. The mean ranks also demonstrate that such concerns are strongest when sustainability is the overarching concept and hospitality management programmes are delivered within a sustainability context; hardly a surprising finding which is richly supported in the literature by Chawla (2014) and Boley (2011).

Subsequently, respondents were asked if SE and an overall positive attitude towards sustainability might impact on their long-term behaviour also. The results showed high mean scores (x=7.2, SD(x)=2.0), indicating real concern. In students’ assessment, sustainability-related issues will be a part of their future decision-making and a key strategic objective. Correlational analysis was then conducted using Spearman’s rho, to assess if favourable attitudes (as the mediating variable) resulted in respondents’ long-term orientation towards this agenda. The results are depicted in Table 7.

**Table 7.** Impact of attitude on long-term orientation  
 Correlations

			LngTm	AltAtt
Spearman’s rho	LngTm	Correlation		
		Coefficient	1.000	.373**
		Sig. (2-tailed)	.	.000
		N	250	250
	AltAtt	Correlation		
Coefficient		.373**	1.000	
Sig. (2-tailed)		.000	.	
N		250	250	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The statistical analysis ( $r = .37$ ) indicates a positive, but medium strength of correlation, establishing that a more positive attitude towards environmental concerns also results in greater orientation towards these agendas in the future. This finding supports the theory of planned behavior (Ajzen, 1991), although it is clear that favourable attitudes are not a strong predictor of future behaviour.

### **Discussion**

The statistical testing presented earlier reveals some very important findings. It is evident that students demonstrate concern about sustainability, although it is also clear that their understanding of this complex agenda is rather limited. The results also establish that the respondents view sustainability as an important, although abstract and complex research area. There is a need for pedagogical discussions to define the boundaries of sustainability, as this seems to be an all-encompassing concept, impacting negatively on student learning. However, this paper argues that there is a generally high level of interest in learning about sustainability among hospitality management students. This is an encouraging outcome, as shown in the literature by Rogers (2013) and Williams and Page (2011). Generation Y can be rightfully called the born-green generation. The results also reflect a very positive development, i.e. sustainability is finding its place in mainstream hospitality curricula, rather than being seen only as an interesting alternative. This is a fundamental paradigmatic shift, as the traditional hospitality curriculum is being modified in alignment with this key aspect of business management. There is also evidently greater effort on the part of curriculum planners and developers to integrate sustainability throughout the courses. This not only positively impacts on students' learning of this key discipline, but also impacts on their views and reinforces positive and favourable attitudes towards responsible resource management.

Students who are more concerned in everyday life place more value on the sustainability construct and seem more ready and likely to apply these concerns to their management practices. This is not a surprising result, as it is widely established in environmental psychology literature. Ajzen (1991) also suggested that our personal attitude toward the norm has clear impacts on intentions to act in a certain manner. Furthermore, our paper suggests that students tend to adopt more pro-environmental behaviour and are more prepared to embrace long-term orientation towards sustainable management if SE has been effective. Although it cannot be claimed that education alone can be a determining factor in their choices whether to act responsibly or not, it can be one of the key determining factors in activating personal norms towards sustainability (Schwartz, 1977). Our research also indicates that more favourable attitudes, developed through ESD, are likely to propel students towards adopting more responsible behaviour in everyday life and in the long term when making business decisions. To sum up, the paper does demonstrate a

positive shift towards the greening of hospitality curricula. Though issues concerning sustainability are an integral component of hospitality degree programmes, there is a wider scope to deliver hospitality education within a sustainability context. In other words, hospitality curricula can be located within the sustainability domain. The outcome of hospitality education should be sustainable management and this is indicative of an emerging trend in the near future. The study also demonstrates that as graduates will carry pro-environmental values into the industry, there is an urgent need for the hospitality industry to embrace green values. The results largely support previous researches (such as Boley, 2011; Deale et al., 2009). However, our key findings indicate that effective ESD has the power to influence future behaviour, as students not only place value on SE, but also confirm that this is likely to modify their future behaviour. This is a significant outcome, as the paper presents compelling evidence that sustainability must be a core component of hospitality management curricula if any real progress is to be made towards responsible business management.

### **Study Implications**

The results from this study have some significant implications for hospitality education. First, there is a pressing need for a rethink of the hospitality management curriculum. It is not uncommon in Europe and the USA, for instance, that hotel management courses (and even programmes) are built around sustainability as the main theme. Hospitality education in India is yet to embrace the agenda to this extent, although this could be an imminent demand in the very near future. Second, there is substantial evidence that environmental literacy is effective when students are able to appropriate their learning into a real-world context. SE-related pedagogy therefore needs to be applied in orientation, another key consideration for curriculum planners and developers. Third, Generation Y students are already aware of the sustainability discourse and possess tacit knowledge about the subject through exposure to media. It is for higher education to consolidate on such informal knowledge. Fourth, there is a demand for sustainability to be a core component of hospitality curricula now. This is a prime opportunity and may even reflect a paradigmatic shift as far as hospitality education is concerned. Fifth, we suggest that the success of SE be measured on its power to modify future behavior and that it is not viewed merely as a theoretical concept. Finally, it is time for the global hospitality industry to take note of this paradigmatic shift. The future hospitality workforce is green in their value set and this will impact on their future behaviour. There is no doubt that the industry has moved forward, but the time to implement sustainability strategically through all aspects of the business operations has truly arrived. The time for innovative “out-of-the-box” thinking on the part of curriculum planners is here. There is an evident need for innovative ideas, to better integrate sustainability within specific hospitality

functions, such as lodging, food production or waste management. As mentioned earlier, this implies a complete remodeling of hospitality education, but given the urgency of this issue, the time to do so could not be more appropriate.

### **Research Limitations**

The paper adopts a highly structured positivist methodology using quantitative data to investigate some issues. As such, in-depth analysis might be needed to further explore emerging agendas in greater detail. Qualitative studies might help to explain or support findings emerging from this paper. This study considered the views of only one primary group of stakeholders (the students). It is recommended that the results be integrated with opinions of other key stakeholders in hospitality education (namely academia and the industry) as this could provide a more detailed overview of SE. This paper is cross-sectional in nature and a longitudinal study might establish if SE is really impacting on strategy-making among hospitality leaders. This might warrant more ethnographic types of studies to establish any tangible changes in behaviours as a final outcome of ESD. Lastly, we recognise that behavioural intentions are also influenced through a host of psycho-social factors (such as subjective norms, values, perceived behavioural control, habits and cultures). Although these can have a deep impact on behavioural intentions and therefore actions, these important variables have not been included in this study so as to control bias. A larger scale investigation is therefore recommended, where apart from education and awareness, the impact of such variables is also reflected so as to provide a more comprehensive view.

### **Conclusion**

This study was aimed at investigating students' perceptions of SE, as students continue to remain an under-represented group of stakeholders as far as such education is concerned. Adopting a positivist research tradition, our research demonstrates that students are not only aware of sustainability, but are also keenly interested in learning about it. The paper also argues that ESD can positively influence learners' future behavioural intentions towards more responsible actions. There is evidence that the sustainability curriculum is more effective when it is well integrated throughout the course, rather than taught as a stand-alone module. Students are also more likely to adopt pro-social behaviour if the orientation of SE is more applied. The findings from this study are potentially of value in understanding students' psychology towards ESD. The paper is also of value to academia, as fundamental changes to the hospitality curriculum are suggested for SE to be effective in modifying future behaviour. It is evident that SE can strongly impact on students' future attitudes towards sustainability. What is new as far as our findings are concerned is that the mode of teaching sustainability can also have a profound impact on students' future

behaviour. This aspect of SE has not been explored earlier and more in-depth studies are needed to understand this issue further.

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