ENVIRONMENT ISSUES AND UNIVERISTY CHOICE: WHO CARES?

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Abstract

Empirical research that relates to university applicants' attitudes towards green issues, environmental issues or sustainability factors when choosing among higher education institutions is currently almost non-existent. Corporate Social Responsibility in terms of green issues in UK universities appears to lack a significant voice for improvement. This exploratory research seeks to map the differences between students who believe that green issues are important and those who do not think such issues are important when choosing a university in an attempt to explore a possible external stakeholder voice in favour of improving University CSR in terms of green issues. The *People and Plant Green League Table* is used as a basis for this study alongside university league table scores and the demographic factors of the respondents. The researchers use primary data from a national (UK) survey with a large number of respondents (11,824) from a large number of higher education institutions (178 including some university colleges). Findings show that students do not base their choice on green issues (as expected) but also that students do not rate

green issues as important. Implications for leadership on green issues are discussed.

Introduction

Corporate Social Responsibility (CSR), often in connection with performance, has been researched for many years with an extensive literature on the subject. However, there is very little on universities with regard to CSR. This may be because often universities are perceived as beacons of CSR in terms of the social good produced by their endeavours. Yet, the Green League of UK universities (Williams, 2011) reveals that 71% of UK universities still get all their electricity from fossil fuels and that universities' carbon emissions continue to rise. Overall, carbon emissions at 139 UK universities rose by 3.9% between 2005 and 2010 – even though capital funding for English institutions is now linked to CO_2 reductions. Many of the most prestigious institutions are placed low in the 2011 [Green] league table, including Oxford (103rd), Cambridge (68th) and London Business

School (136th) (Williams, 2011).

With the increasing sophistication of technologies to support environmental sustainability, reduce waste and carbon emissions along with the requirement for universities to provide details of their corporate social responsibility it may be expected that highly rank and prestigious universities would rank higher in the green league of universities. This is not the case (see table 1). In this paper we conduct analysis to illustrate the lack of consumer pressure to encourage CSR in terms of environment issues. This paper reports on the analysis of quantitative data from a survey of 11,824 students in UK universities, carried out 2010-11. First-year students were asked to respond to questions about their current choice of institution in addition to a question on whether they considered the green or
environmental aspects important when they made their choice.

Literature Review

It It is thought that commercial corporations are less likely to act in a socially responsible way when they experience weak financial performance (Campbell 2007). With growing commercial pressure on universities, it is not inconceivable that universities may act similarly and actions stemming from organizations matter to employees and other stakeholders (Aguilera, Rupp, Williams and Ganapathi 2007). Facing too much or too little competition tends to reduce CSR while state regulation or the threat thereof encourages CSR as does effective self regulation. More pertinently, CSR is more likely where corporations face normative calls for responsible behaviour from business schools and other educational institutes (Campbell 2007). While universities may act as a moral compass for many social issues, it would appear that green issues lack a voice to challenge the green oversight
within universities themselves. Present Government regulation appears insufficient.

Given that there is a disconnect between the general CSR literature and universities, we turned to the consumer-student choice literature to explore the possibility for a supporting green voice. The concept of a green university is relatively new and published studies reporting on the environmental practices of public institutions like universities are less common than those about private entities (Sobreiro & Jabbour, 2007). A review of literature suggests that recent and current research on student choice of university covers a wide range of factors including: demographics (Cho, Hudley, Lee, Barry, & Kelly, 2008; Mastekaasa & Smeby, 2008; Reay, Davies, David, & Ball, 2001); academic considerations (Baker & Brown, 2007; Imenda, Kongolo, &

Grewal, 2004); characteristics of institutions (Harker, Slade, & Harker, 2001; Imenda et al., 2004; Price, Matzdorf, Smith, & Agahi, 2003); choice of course programme (Baker & Brown, 2007; Callender & Jackson, 2008; Mastekaasa & Smeby, 2008; Pasternak, 2005; Veloutsou, Paton, & Lewis, 2004) and financial issues (Bonnema & van der Weldt, 2008; Callender & Jackson, 2008; Drewes & Michael, 2006; Perna & Titus, 2004). There were no empirical papers that emerge through literature searching that relate to applicants' attitudes towards green issues, environmental issues or sustainability factors in terms of higher education institutions. The *People and Plant Green League Table* of UK universities is based on a number of key variables: transport management, waste management; procurement, water, buildings and architecture, discharges, community issues and bio-diversity (Williams, 2011), and is used as a basis for this study. (There is also a Carbon Reduction Commitment (CRC) (THE, 2012) league table but only a small number of universities are included.)

Methodology

Data were collected as part of a national survey of students attending UK higher education institutions. This is part of an annual study through an online panel and the full data set was made available to the researcher for academic purposes. In addition to a wide and comprehensive range of questions relating to demographics, factors in choice of university and attitudes to marketing, a question relating to environmental and green issues was included and is the focus of this study. The researcher uses data from this question as the dependent variable, however, despite this limitation, the exceptionally large number of respondents (11,824) from a large number of higher education institutions (178 including some university colleges) to some extent compensates for the limitations of the single "green" question itself. While there is a growing body of literature on choice, it is early days for research on choice which includes environmental issues and therefore responses to a single question in conjunction with a range of moderating and independent variables still provides some insights into attitudes to environmental and green issues in terms of making choices. All those participating in the study are first-year undergraduates at UK institutions during the year 2010-2011 and are members of a student panel which encompasses a wide range of research on consumer behaviour. The largest number of students from any single institution is 342, and there are 13 universities where fewer than 10 respondents completed the survey. Respondents and universities are anonymous but universities are numerically coded. In the source

Table 1: Pearson Correlation Results for Green League Table Scores and University Ranking Total Scores

Correlations

		Environment Score	University Rank/ Score
Environment Score	Pearson Correlation	1	-.242[**]
	Sig. (2-tailed)		.000
	N	11604	11603
University Ranking/Score	Pearson Correlation	-.242[**]	1
	Sig. (2-tailed)	.000	
	N	11603^	11824

**Correlation is significant at the 0.01 level (2-tailed). *data missing – total N=11,824*

database universities were also categorised using Mission Groups (Russell Group, 1994 Group, Million-Plus, Alliance, and HE Guild and non-membership) as dichotomous variables. Data relating to a respondent's university is coded by using total scores from *The Complete University Guide* (2012) UK league table (analysis is not carried out at individual university level). Data were also coded by the researcher using the total scores for each university listed in the *People and Plant Green League Table for the UK* (People & Planet, 2012).   All other data are self-reported by the respondents during the completion of the online survey.

Results

A Pearson Correlation test was carried out to establish whether there is a relationship between *The Complete University Guide* (2012) UK league table scores and the *People and Plant Green League Table for the UK* (People & Planet, 2012) scores (see Table 1). The findings show that there is a significant (0.01 level) and negative relationship (-.232) between university ranking scores and green league table scores (greenness). That is, higher scores for greenness are related to lower scores in the university league table (total scores achieved) and vice-versa. However, the relationship is small (Pallant, 2007), although significant. Indeed some universities in the top positions in the green league table achieve low scores in the *University Guide* league table, and universities appearing at the top of the *University Guide* league table achieve (observed) lower scores in the Green league table.

Table 2: Summary of Test Results

Variable	n=11824 (Non-Green)	n=2152 (Green)	Significance	Test
Gender	Male: 40.4%	Male: 35.9%	*Significant* (0.00)	Chi-Square
	Female: 59.6%	Female: 64.1%	*Green: higher number of females*	
UCAS points	Mean: 382.96	Mean: 368.06	*Significant* (0.002)	t-test
	(points)	(points)	*Green: Lower UCAS points*	
Distance from	Mean: 64.18	Mean: 68.27	*Significant* (0.03)	t-test
parental home	(miles)	(miles)	*Green: higher mileage traveled*	
University Ranking	Mean: 32.44	Mean: 33.07	*Significant* (0.004)	t-test
for Greenness	(/100)	(/100)	*Green: Universities higher ranked*	
Religion	Islam: 3.7%	Islam: 5.6%	*Significant* (0.00)	Chi-Square
	Non-Islam: 96.3%	Non-Islam: 94.4%	*Green: follow Islam*	
Ethnicity White	White: 87%	White: 81.6%	*Significant* (0.00)	Chi-Square
	Non-white: 13%	Non-White: 18.4%	*Green: non-white respondents*	
Ethnicity Asian	Asian: 7.9%	Asian: 12.5%	*Significant* (0.00)	Chi-Square
	Non-Asia: 92.1%	Non-Asian: 87.5%	*Green: Asian respondents*	
Type of University	Russell: 28%	Russell: 24%	*Significant* (0.00)	Chi-Square
			Green lower percentage	
	1994 G: 17%	1994G: 19%	*Significant* (0.00)	Chi-Square
			Green higher percentage	
	Million+: 16%	Million+: 17.6%	*Not significant*	Chi-Square
	Alliance: 18.1%	Alliance: 18%	*Not significant*	Chi-Square
	GuildHE: 3.2%	GuildHE: 3.2%	*Not significant*	Chi-Square
Widening Participation	Yes: 23.8%	Yes: 22%	*Not significant*	Chi-Square
Type of Schooling	State: 79.7%	State: 78.3%	*Not significant*	Chi-Square
	Indepen: 15.7%	Indepen: 17.1%		
Age	Mean: 20.48	Mean: 20.74	*Not significant*	t-test
University ranking Score	Mean: 633.02 (/1000)	Mean: 626.22 (/1000)	*Not significant*	t-test
Social Class	ABC1: 72.6%	ABC1: 72.1%	*Not significant*	Chi-Square
	C2DE: 27.4%	C2DE: 27.9%		
Ethnicity Black	Black: 2.3%	Black: 3%	*Not significant*	Chi-Square
	Non-Black: 97.7%	Non-Black: 97%		

Profile of the Respondents

The profile of the student respondents shows that 4698 (39.7%) are male and 7126 (60.3%) are female. (The gender balance is slightly skewed towards females compared with the HESA (2012) statistics for 2009/10 where 57.5% of undergraduates are female and 42.5% are male. The mean age is 20.52 and ranges from under 18 to 26+ (mature students) but 72.4% of the students are under 19 and 92% are under 26. Eighty-six per cent (86%) of the sample are UK nationals, and 85% are white (2.8% Black; 8.4% Asian; 2.8% other) the respondents are therefore, typically white and from the UK – international students were not included in this dataset. Sixty-six per cent (66%) of

students belong to the ABC1 social class group and 25% are from the more working class C2DE group (9% did not respond); 15.7% of respondents attended fee-paying schools. The respondents have a range of UCAS[1] points from under 100 (5.5%) to over 500 (18.7%); 60.7%, however, have 200-500 points.   Although students chose universities varying in distance from their parental home, the majority – 67.2% chose to attend a university less than 100 miles from their home. Students were also categorised based on whether they were from a "widening participation" group – that is, their postcode is designated as one of the lowest 20% of boroughs, or the next lowest 20%, in terms of participation in higher education: 23.8% of respondents were designated "widening participation students" (9.7% were in the lower category). Crucially, 2.7% (314) of students said that environmental issues and green issues were very important in choosing a university, and 12.2% (1440) indicated that these issues were quite important. With such a small percentage of students indicating that these issues are important – the large sample size is crucial for a study on this topic (otherwise the raw numbers of students with these views would be too small to allow meaningful testing). A summary of test results

is shown in Table 2, and is discussed in the next section.

The Likert Scale data for the environment/green question was recoded to become a dichotomous variable (Not important-Important) so that a series of tests using demographic factors as independent variables could be conducted to find out whether there are any significant differences between the two groups, those who think environmental and green issues are important to choice, and those who do not. Only some of the variables reveal significant differences between the groups in terms of whether they considered environmental and green issues to be important in choice of university and these results were included in binary logistic regression model. (The dependent variable (green/not

green) is dichotomous for use in Logistical Regression modelling.)

Chi-Square testing was used when the independent variables are categorical and t-tests are used when the independent variable is continuous. The findings from tests show that the following factors are significant in terms of students who claim that environmental and green issues are important in choice. First, more female students are green-

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[1] UCAS (University and Colleges Admissions Service) point scores are based on 'A' level grades and equivalent qualifications and are used in the admissions process

Table 3: Results of Binary Logistic Regression Analysis

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	UCAS points	.000	.000	4.321	1	.038	1.000	.999	1.000
	Distance from home	.002	.000	13.353	1	.000	1.002	1.001	1.002
	Green Score	.008	.004	4.663	1	.031	1.008	1.001	1.016
	Russell Group	-.154	.085	3.269	1	.071	.858	.726	1.013
	1994 Group	.152	.084	3.298	1	.069	1.164	.988	1.371
	White	-.336	.110	9.325	1	.002	.715	.576	.887
	Asian	.226	.152	2.210	1	.137	1.253	.931	1.687
	Islamic	-.039	.166	.056	1	.813	.961	.694	1.331
	Gender	-.260	.062	17.688	1	.000	.771	.683	.870
	Constant	-1.637	.236	48.022	1	.000	.195		

a. Variable(s) entered on step 1: UCASpts, Distance, ENVscore, Russell-not, 1994-not, White-NonWhite, Asian-non-Asian, Islam-non-Islam, Gender.

focused; green-focused students have significantly lower UCAS point scores; and are studying at universities further from their parental home. On a positive note, green-focused students chose universities with a higher ranking in the *People and Plant Green League table* (although this likely to be linked with UCAS points score achieved and other factors). There are significantly fewer white and more Islamic students, Asian students and students with disabilities, in the green-focused sample. Whilst a lower percentage of green-focused students attend Russell Group universities, a higher percentage attend 1994 Group universities: 19% compared with 17% in the non-green sample. However, university rankings are not related to greenness – students are not more, or less likely to attend a higher or lower ranked university. There is also no difference between widening participation students and others, or any difference by age, type of schooling or social class in terms of greenness.

Binary Logistic Regression Analysis

Binary Logistic Regression Analysis was performed to assess the impact of a number of factors on respondents' views on whether green issues are important in their choice of university. The model contained nine independent variables (gender, ethnicity [White/non-White; Asian non-Asian], Religion [Islam/non-Islam], UCAS points, distance between their home and their chose university, the green ranking of their university, whether the university was Russell Group, or 1994 Group). The full model containing nine predictors was statistically significant, X^2 (9, N=11824) =88.97, p<.001, indicating that the model was able to distinguish between respondents who reported that green issues were important and
those who did not.

However, the model as a whole explains a very very small variance in green status (between 1.1% Cox & Snell R Square; and 1.8% Nagelkerke R square) although it correctly classified 86.1% of cases. As shown in Table 3, five of the independent variables made a unique statistically significant contribution to the model: individual UCAS points score, distance from home, green score of the university, gender, and ethnicity (non-white). The strongest predictor of choosing a green university recording an odds ratio (ExpB) of 1.008 (ranging from 1.001 to 1.016) is the green score of the university.   This means, however that respondents who indicated that green issues were important had an odds ratio of 1 and therefore the possibility that there was an equal chance of respondents giving a 0 or 1 (No or Yes) answer to the question (Pallant, 2007) cannot be ruled out. In addition to the very low R Square results this means, disappointingly, that the model does not enable
researchers to predict green-focused behaviour using these variables.

Discussion and Conclusion

First, this research is exploratory and opportunistic in that the data had already been collected through a very large scale survey of students attending a large number of UK universities. Independent demographic variables are able to provide some insights into the possible differences between those who consider green issues to be important in choice of university and those who do not. Test results indicate that there are significant differences between some of the different demographic groups in the study (e.g. by gender, ethnicity, religious affiliation) although the final modelling suggests that this is not a predictive model. Secondly, although the green league table is available for this

research, it is unlikely that students use such league tables when making choices – environmental/green behaviour by universities is not part of the main league tables, and these scores have only been available in the last two years. Only a very small proportion of students indicate that green issues are important in their choice. Moreover, for this small proportion, this does not mean that their choice of university is *based* in any way on green issues; other factors are likely to be far more important, although this small group may be advocates for the greener university. Given the weakness of green issues in student decision making, it is unlikely that universities will alter policies on green issues without other external pressure such as strong

government regulation or threat thereof (Campbell 2007).

In regard to green issues, the lack of consumer motivation in terms of choice and the likelihood of this situation being resistant to change, we suggest that other mechanisms are required in order to motivate UK universities to adopt a green approach. External pressures such as strong government regulation such as more stringent 'carbon tax' linked to funding or the threat thereof may be necessary to encourage UK universities to initiate further improvement in environment policy and practice. The greatest impact in terms of encouraging universities to be more environmentally responsible may be the inclusion of the carbon reduction scores, and/or plant and green scores in the primary league tables such as

the Times Higher Education World Rankings, the Guardian and the Times league tables.

With little interest in green issues when it comes to student choice, it would appear rational for universities to ignore the green appeal. However, there may be an opportunity for universities with greener credentials to capitalize on their current green status by being 'first to market' in terms of differentiating themselves from competition and taking a leadership role in creating a differentiated and ethical market position. Marketing managers of universities with better green credentials could take the initiative in educating their potential students of the importance of CSR on green issues, even if this is not a current determining factor in choice of university. Public Relations and lobbying may be an appropriate course of action for such universities. With regard to ethical and green issues, it is not only that higher education marketers need to be aware of the changes in consumers' ethical beliefs if they want to target ethical consumers of higher education but rather there may be a moral imperative to educate and cultivate an

ethical understanding in their potential students and with this comes leading by example. Not only identifying but developing segments of ethical consumers of education is important for market positioning.

Limitations

The study relies on data collected from a large sample – but the students are all from the UK and all in the first year of an undergraduate degree, which limits the scope of the study considerably. The number of non-white students is also relatively small despite the exclusion of overseas students, but the reason for the small percentage of non-white students is unknown. The percentage of students who consider green issues to be important is small compared with those who do not – 14.9%, however the total number of students in this group is 2152 which is considered a large sample. Another limitation is that there might be some self-selection in the total sample because this is a panel study and students volunteer to participate. Using quantitative deductive research at the pioneer stage of research in a new field has considerable limitations in that there is a lack of existing models for testing. The testing of theory is difficult in these circumstances and therefore qualitative research is recommended.

References available upon request