ENVIRONMENTAL SUSTAINABILITY: PERCEPTIONS OF INTERNATIONAL STUDENTS IN NEW ZEALAND

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ABSTRACT

The purpose of this research is to investigate the perception of international students regarding environmental sustainability. It was determined that country of origin and age affect an individual's thinking patterns to a great extent. While this study shows that there were commonly held views of respondents across different nationalities and age groups, there were also some notable differences, particularly in relation to abusing of the environment and the effects of pollution. This research will be of value to international tertiary institutions who have an interest in people's attitudes towards sustainability and the environment.

Keywords: Management, environmental sustainability, international students

INTRODUCTION

In their definition Emanuel and Adams (2011) refer to sustainability as an "economic, social, and ecological concept" (p.81) that was derived from the term sustainable development and includes conservation of natural resources through recycling, waste and water management, using renewable energy resources and developing environmental friendly land and property assets. Ni, Sun, Li, Huang, and Borthwick (2010) are of the opinion that the luxurious human lifestyles have led to severe environmental conditions such as soil erosion, desertification, and water and air pollution and global warming.

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Almost two decades ago already, Biggs (1996) referred to foreign (international) students' experiences in Western countries, such as New Zealand's educational institutions, being influenced by culture, businesses' structures and their family background. This study is based on the perceptions of international students' experiences in New Zealand.

Will the international students stay in New Zealand after they have completed their studies? If they do stay in New Zealand, are they prepared to accept the fact that New Zealand has a "clean green image", and what will their value added to this image?

A survey was conducted to explore and understand the students' perceptions and attitudes towards environmental sustainability and other issues related to this subject. The first study was conducted at Unitec New Zealand in March 2007 in the Business School and repeated in 2010. With permission from the researchers the questionnaire was adopted and revised to its current form to suit UUNZ. Although this is the first study of this nature at UUNZ, New Zealand, it is intended to be part of a longitudinal study to identify trends in student approaches to sustainability issues. Since the area of student perception is under-researched, it is an important step towards changing their behaviours to intentional sustainable actions (Treanor 2010). This study has revealed recognition by the respondents of the positive and long term impacts of the sustainable development.

It was also determined that demographic factors affect an individual's thinking patterns to a great extent, and that an individual's social and cultural background can influence approaches to sustainability. The results show the development of positive views in terms of attitudes and the behaviour towards environment conservation.

The next section of this paper discusses a literature review followed by the problem statement, aim of the study and the methodology sections. A discussion follows on the analysis of the data collected and correlations identified. The following section presents the authors' recommendations from the study, and finally the paper provides a summary and conclusion followed by references.

LITERATURE REVIEW

The description of sustainable development was initially given by the Brundtland Commission (1987, p.24, as cited in Elliot 2011), and was defined as a development that "meets the needs of the present without compromising the ability of future generations to meet their own needs". Although, the emphasis of this statement was to maximise the natural resources, it was argued by Starik and Rands (1995, as cited in Elliot 2011) that terms such as 'meets the needs, and meet their own' were not defined explicitly. On the other hand they proposed *Ecological sustainability as an alternative that could provide* 'the ability of one or more entities, either individually or collectively, to exist and flourish for lengthy timeframes, in such a manner that the existence and flourishing of other entities is permitted at related levels and in related systems' (Starik & Rands 1995, as cited in Elliot 2011, p. 909). Another term which comes under the umbrella of environmental sustainability is climate change, or as the term is lately

known as global warming. This is defined as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere" (UNFCCC 1992, as cited in Elliot 2011, p3). He argued that environmental sustainability is an essential prerequisite for social and economic development. In this sense, environmental sustainability represents a set of constraints on the use of renewable and non-renewable resources in the production of goods and services and on pollution and waste assimilation in their consumption.

In the past, managers concentrated primarily on transactional and traditional activities. These activities are still necessary, but high-level competencies and management skills to support management and goal achievement to be sustainable but still competitive are essential to be effective in future (Hawkins 2010). The recent global economic downturn, the uncertainty of the financial future, the war on terrorism, the war for talent, the progress in e-business and e-media and others all add to the tough times that people are experiencing in the every-day environment. Organisations and communities are looking up to strong leaders to take charge during these rapid environmental changes to ease out the negative impact it could have on businesses.

Furthermore managers and leaders should also take a strategic lead in combining their capabilities and competencies to enhance global management, culture change and intellectual capital in organisations. The additional contemporary competencies and capabilities of leaders and managers such as taking on high level line management responsibility, adding value, proving direct support via strategic inputs and so on should also not lose sight of either (Brewster et al. 2008; Kouzes & Posner 2009). Although the competencies of leaders and managers are often reviewed and researched at the international level, multi-nationals and global organisations still need to observe the regional context to accommodate local culture and customs of employees who are employed in those organisations. This is essential as often the practice of management at the local level and within a particular local context is vastly different from the international context, such as the ability to recycle or save energy and so on.

A definition by Johnson (2009) refers to sustainability as the preservation of the global resource base through conservation of natural resource consumption. In simpler words, sustainability is utilizing the natural resources wisely and to meet the necessities of our lives, considering the need for the resources for the future generations to survive

A further emphasis is on the importance of a clean environment and protection of the natural assets available to us. The decline of ecology on a global level has proved that the ever increasing population and the free trade policies have resulted in exploitation of resources and increased effluence stresses. Unrelenting economic conditions, increasing inequity among nations, continuous degrading quality of life despite all the social efforts and increased costs to produce food worldwide, erratic changes in the climate and deteriorating atmospheric conditions are some of the other trends of the environmental sustainability problems (Keys, Thomsen, & Smith 2010).

Sustainable consumption is expected to minimise the environmental damage, through socially equitable consumption patterns as it allows every individual to consume only what their fair share of natural resources is (Peattie & Collins 2009). Industrialised nations and their consumers

use more than 80% of the limited natural resources that have led to consumption inequality amongst nations across the globe and support a sustainable consumption (Huang & Rust 2010).

The precariousness of the environment is now evident to even the most casual observer. The global environment is changing rapidly and more dramatically than ever expected. Climate has become unpredictable, an example being the UK and USA experiencing the coldest winter in a hundred years during their last winter season. Such unpredictable has drastic effects on people across the world (Treanor 2010). Population growth increased industrialisation and improper utilisation of resources have negatively impacted the ecosystem which resulted in a disrupted natural cycle of global resources and destabilised environmental sustainability (Orimoogunje, Adegboyega, Banjo & Funmilayo 2011).

International students and therefore people perceive sustainability differently (Aras & Crowther 2008). Sustainability means preserving the natural capital. However, for modern human beings, living involves using the non renewable resources (Bonevac 2010).

Pronk (2001) argued that many problems related to environment are due to globalisation. He emphasised that to have a sustainable environment there should be new production and consumption pattern, growth towards labour-intensive and bottom-up development that reduces poverty (Pronk 2001, as cited in Halme et.al 2002). In the same line of thought Bansal (2005) emphasised the three principles of sustainable development and if any one of the principles is not supported then economic development is not sustainable. These principles are *environmental integrity* (ensuring that human activities do not erode the earth's land, air and water resources), *social equity* (ensuring that all members of society have equal access to resources and opportunities), and, *economic prosperity* (promoting a reasonable quality of life).

Until now, governments, institutions and organisations are developing tools, such as discussion forums, posters, and even enforcing legislation to provide awareness and informing people on the street about the importance of sustainable environment. Not only that, the importance of sustainability has been extended to educational systems to promote learners' self-interest in understanding and embracing the challenges the environment is bringing. One of the outcomes of the UNCED (United Nation conference on environment development) conference that took place in Rio de Janerio in June 1992, was for the educators to incorporate environment education as an essential part of learning. On the other hand NGO (Non-government organisation) also practices in the field of environmental education by helping communities and countries with reorienting environmental sustainability (Tilbury, Goldstein & Ryan 2003).

Bhandari and Abe (2002) have also pointed out that education for sustainable development has become the focus of environmental education. They describe its evolution as moving from an emphasis on changing behaviour, understanding, knowledge, awareness, and skills, to a broader concept with a central focus on equity, quality of life, human rights, and environmental quality (as cited in Gilbert 2003). According to Pedro and Xavier (2010) energy efficiency and conservation are major factors in the reduction of the environmental impact of the energy sector, particularly with regard to climate change.

Tertiary institutions could assist in the effort to control the increasing atmospheric temperatures by creating awareness and outlining policies regarding the issue at a global level in their programmes they present to students. Kyoto protocol is an example of one of such efforts across the world. Its main objective is to control the greenhouse gasses emission in the atmosphere, by limiting the amount of gasses emitted by each country (Roth 2004). The consequences of global warming are already evident in the Pacific region in forms of higher sea levels, increased high tides, unpredictable weather and salination of water and soil. New Zealand is a member of the Kyoto Protocol and the United Nations Framework Convention on Climate Change (Stephens, Smith & Lincoln 2008).

In this research our main focus is to take the key points from the literature on environmental sustainability and to obtain respondents' views relating to these. For example, the questionnaire includes issues relating to healthy life-style, pollution, natural resources, energy-efficiency and global warming.

PROBLEM STATEMENT

Sustainable development programmes have the objective of changing individual attitudes and approaches towards sustainability and conservation of natural resources. Some international tertiary students could be the future leaders of New Zealand. It is therefore important for a tertiary institution to determine what their perceptions, attitudes and behaviours are towards sustainability. For example, a study could shed some light on their perceptions and behaviours, which may lead to existing curricula being amended (e.g., by incorporating relevant sustainability components within course learning outcomes).

AIM OF THE STUDY

The focus of this paper is to analyse the perception of international tertiary students surveyed in 2011 and to understand their views on sustainability, including those factors which affect their 'green' behaviour. Attention will be given to demographic factors, particularly the nationalities and ages of the respondents, and whether there are similarities or differences in their approaches to sustainability issues.

RESEARCH METHOD

The following sections outline the research method and the main techniques used to collect and analyse the data.

Research Design

The research design is based on survey questionnaires. The target population was international tertiary students of UUNZ Institute of Business, Auckland. A survey was distributed to

undergraduate and post graduate students studying business at the institute. The choice of business students is deliberate because the researchers believed they'll get a cohort of people with similar background and age in addition to materialistic aspirations. In future some of these students may perhaps become senior managers who could have a deciding standpoint on these issues.

The revelation of the identity of respondents was not required and the respect for rights and confidentiality and preservation of anonymity is present throughout the questionnaire. There is no harm, cultural or social sensitivity nor deception in the questionnaire or study. There was no conflict of interest and the intellectual and cultural property ownership represented.

Questionnaire Design

A questionnaire was designed with 52 questions (using a likert scale from 1 very strongly disagree to 7 very strongly agree) seeking the views of students relating to the environment, culture, self feelings towards life regarding money and health, and human interaction with natural resources. Included in the survey were six questions about personal information (such as gender, age, nationality, and religion) of the survey participants. The scope of this research is limited to the following six questions relating to environmental sustainability:

1. Humans destroy nature (Q3)
2. Industrial growth is necessary for economic development (Q5)
3. Mankind is abusing environment (Q9)
4. Pollution does not affect me (Q13)
5. I have to save energy where possible (Q16)
6. I must save resources for the future (Q18)

The correlation was conducted between the above questions and two variables, namely a) the age of the respondents (under 20, 20-39, 40-59, and 60 or over); and nationality (Indian, Chinese, Russian and others).

Data Collection

Questionnaires were distributed in the classes by the lecturers. Students completed the survey anonymously and returned it to a box in their respective classes without the lecturer being present. Participation of all business students in the study was voluntary and through informed consent. Questionnaires are locked in the primary researcher's cabinet for a period of five (5) years.

FINDINGS

The data was entered in Excel and then transferred into SPSS to get some descriptive statistics. Results were generated and analysed using the SPSS package. The researchers did some analysis based on the research questionnaire.

Out of 124 questionnaires distributed 96 were returned, representing a response rate of seventy seven percent. For reader understanding, the data were collated into two groups: *agreed* and *disagreed*. So, 'very strongly agreed', 'strongly agreed' and 'agreed' were collated and classified as *agreed* and the rest were classified as *disagreed*. For instance, In Table 1 below, 54 percent agreed that 'humans destroy nature' and the rest (46 percent) disagreed (which is not projected here).

Comparison of Age and Country of Origin

Table 1 shows that students with an age group under 20 years old, 54 percent agree that humans destroy nature but the same group does not believe that mankind is abusing the environment or that pollution is affecting them (15% respectively). On the other hand almost two thirds (62%) agree that they have to save energy and must save resources for the future, respectively.

Another important factor is that three quarters of the Indian respondents agree that they have to save energy (75%) and that they have to save resources for the future (75%). In their responses the Russian students (63%) agree to save energy and 75 percent agree to save resources for the future. Similar results were noted for Chinese respondents (see Table 1 below).

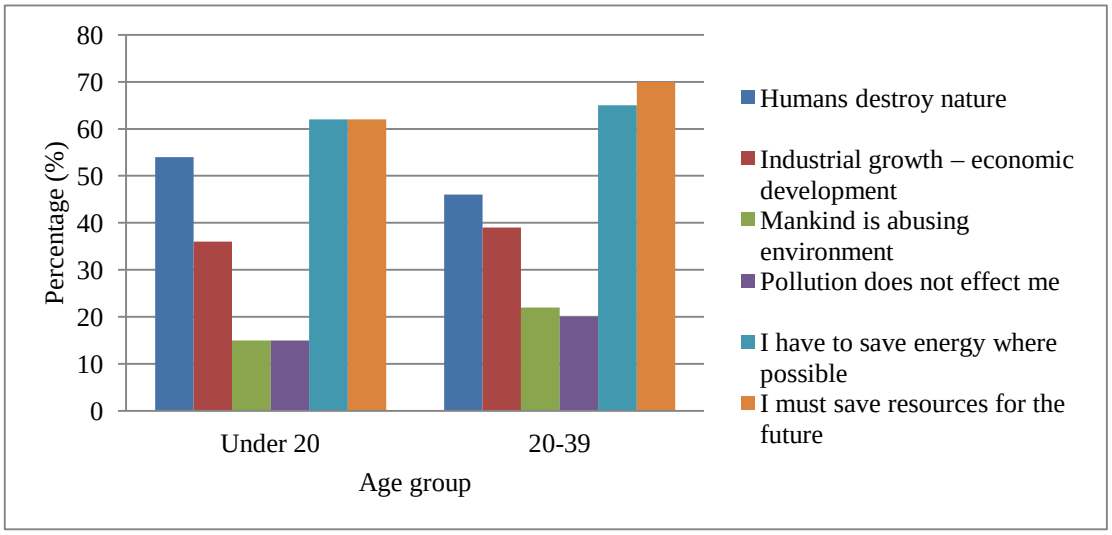
The majority of the respondents (70%) were in the age group 20-39 years old who agreed that they needed to save resources for the future. In contrast to this figure only 20 percent of the same group of respondents are of the opinion that pollution does not affect them. With only 22 percent of them agreeing that mankind is abusing the environment it can be deduced that because they are in a foreign country they don't accept responsibility for abusing the environment in New Zealand.

Table 1: *Agreed* Response Rates (%) by Age and Country of Origin

	Humans destroy nature	Industrial growth is necessary for economic development	Mankind is abusing environment	Pollution does not effect me	I have to save energy where possible	I must save resources for the future
Question #	**Q3**	**Q5**	**Q9**	**Q13**	**Q16**	**Q18**
Under 20	54	36	15	15	62	62
20-39	46	39	22	20	65	70
Indian	50	67	42	25	75	75
Chinese	29	35	15	19	75	69
Russian	50	29	25	14	63	75
Other	50	30	22	22	35	57

In Figure 1 below, it is evident that the age group under 20 years have two seemingly conflicting views. Whilst they disagree (85%) that mankind is abusing the environment, very few (15%) believe that pollution does not affect them. Similar results were identified for the Chinese respondents and it could be deduced that they are in the same age group of under 20 years old.

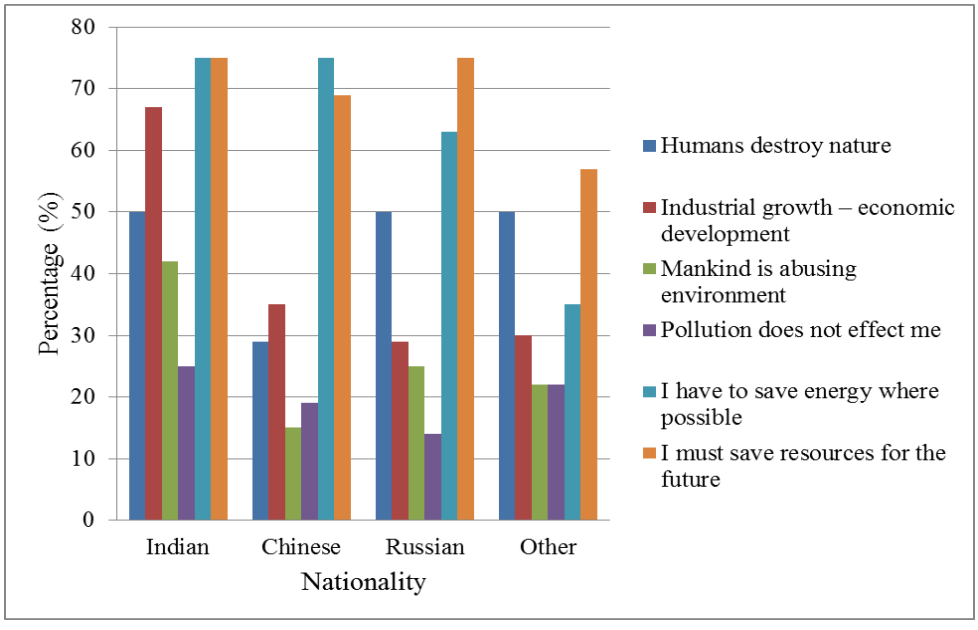
Figure 1: *Agreed* Response Rates by Age Group



Correlation Between Age and Nationality

The correlation coefficients matrix was used to determine the strength of the relationship between the six questions asked and with age and nationality. It was found that there is a significant relation between Q9 and Q13 and nationality. Questions 3, 5 16 and 18 have no relationship with age of respondents in regards to abusing environment and the effect of pollution. Figure 2 below depicts responses based on nationality.

Figure 2: *Agreed* Response Rates by Nationality



It can therefore be deduced that in 2011 people from different nationalities and ages studying in New Zealand were linking their attitude to saving energy and resources with their attitude to enhancing their economic development.

CONCLUSION

Despite the differences there were many similarities that appeared constantly across the survey. From this research project it is evident that all the survey participants strongly associates the concept sustainability with their environment and it emphasises the need to link the sustainable development with the economic, social, cultural and factors for the students to understand the complications and the challenges about the topic. It was also found in the research that people with different cultures and nationalities have different approaches towards sustainability; they feel differently about the environment and behave differently when it comes to 'green' behaviours.

This research determined and exemplified the current views and attitudes of international tertiary students within UUNZ Institute of Business across all courses.

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