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Consumer attitudes towards sustainability and sustainable business: An exploratory study of New Zealand consumers.

A thesis submitted in partial fulfillment of the requirements for the Degree of Master of Commerce and Management at Lincoln University by David Anthony Thompson

Lincoln University
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Abstract

The concept of sustainability has undergone considerable discussion and analysis by the academic, commercial and legislative communities since it first rose to prominence with the publication of the Brundtland Report in 1987. From that debate and assessment has developed widespread acceptance of the importance of living and working sustainably, and as a result, it is rapidly becoming one of the most influential drivers of contemporary business planning. It could be readily argued that business, political and academic leaders are in concordance on the subject, yet there has been very little attention paid to how consumers respond to sustainability.

Understanding consumer attitudes towards sustainable business practices is of major importance because it is them, the consumers, that will ultimately make the decisions and engage in the activities that lead to sustainability. Without their engagement, any attempts to achieve sustainable commercial activities will struggle to succeed, therefore understanding how they perceive and respond to sustainability as a concept is of considerable importance.

This study sought to fulfil that need through the analysis of how a sample of consumers responded to sustainability as a holistic concept and identified that while there is some awareness of and commitment to both social and environmental sustainability, when it comes to economic sustainability there is much less certainty. From this, a number of potentially valuable future-research opportunities have been identified,
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Without my wife Nic, this would simply never have happened and while I have had the support and encouragement of many others, I will never forget or cease to appreciate what she has done for me.

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1. Introduction

Businesses increasingly find they are being forced to adapt to major shifts in the technological, political, environmental or economic environments they operate in: shifts that result in changes that are of such a magnitude that have become described as megatrends. One such megatrend is the fast-growing demand for businesses to adopt sustainability as a primary business imperative (Lubin & Esty, 2010). This has come about in response to a growing realisation that the capacity of the natural environment to provide the resources humans have come to depend on and to absorb the waste resulting from human activities is unlikely to meet the demands being placed on it (e.g. Atkinson, Dietz, & Neumayer, 2007; Folke et al., 2002; Kremen, 2005; Meadows, Meadows, Randers, & Behrens, 1972; Scerri & James, 2010; WWF, 2012).

The status of sustainability as a business megatrend is evidenced by organisations such as global business advisors Price Waterhouse Coopers (PwC) stating that “it is critical that business incorporates sustainability in a way that guides strategy development, decision making and practical action” (PwC New Zealand, 2014). The Australasian bank Westpac describe sustainability as a “core value” (Westpac, 2014) assert that “sustainability continues to be an important part of our business strategy and our vision is to be clearly recognised by our customers, employees, investors and the community as a global leader in sustainability” (Westpac New Zealand, 2013).

These examples illustrate that leading participants in the corporate sector are asserting the importance of sustainability as a key factor for deciding business directions into the future. This growth in interest in sustainability is not unique to the business community and has become a key driver in academic thinking (e.g. Beddoe et al., 2009; Christensen, Peirce, Hartman, Hoffman, & Carrier, 2007; Corcoran & Wals, 2004). This is further reflected in the
growing influence being exerted on governmental and non-governmental agencies (Kraemer & Negrila, 2014; Nordhaus, 2006).

It is therefore apparent that the concept of sustainability has gained the attention of many individuals and groups. It is increasingly featuring in research, education, legislation and strategic business planning, but is this interest shared by consumers? It can be reasonably argued that those human activities which most challenge sustainability are concerned with the consumption of goods and services (Barnett, Cloke, Clarke, & Malpass, 2005; Belz & Peattie, 2012; James & Scerri, 2012; Peattie & Peattie, 2008; Zukin, 2008). From within the context of achieving sustainable business practices, it is, therefore, useful to understand the attitudes of consumers towards sustainability. Litvin & MacLaurin (2001, p. 821), argue that the “ultimate purchase decision is a direct behavioural response to attitudes”. This study seeks to respond to that through gaining an understanding of the attitudes held by consumers towards sustainability and to what extent these attitudes influence their behaviour.

**Background**

The concept of sustainability as it is discussed in this study had its genesis in the 1960s when best-selling books such as *Silent Spring* by Rachel Carson (1962) and *The Population Bomb* by Paul R. Ehrlich (1968) created widespread public awareness that increasing human activity was having a deleterious impact on a finite natural environment. This concern was a factor in the formation of The Club of Rome in 1968 as “an informal association of independent leading personalities from politics, business and science” (Club of Rome, n.d.). One of their first acts was to commission a group of researchers from the Massachusetts Institute of Technology (MIT) to conduct a study that would explore the relationship between exponential economic and population growth with finite resources. Through the use of computers and computer modelling, this was a ground-breaking work and resulted in the publication of *The Limits to Growth* (Meadows, Meadows, Randers, & Behrens, 1972). This book argued that human
activity was using earth’s resources in an unsustainable manner and initially received widespread criticism and even ridicule, particularly from conservative economists and the mainstream business community (Kaysen, 1972; Simmons, 2000; Solow, 1973). However, subsequent analysis and the passage of time have revealed that its overall findings were in fact realistic and *Limits to Growth* has become a regularly updated and influential publication (Norgard, Peet, & Ragnarsdotir, 2010; Turner, 2008).

A further development occurred in 1980 when the International Union for the Conservation of Natural Resources (IUCN) published the World Conservation Strategy (WCS). This document had a major impact on the evolution of sustainable development in that it “marked a shift away from the traditional focus on cure rather than prevention” (McCormick, 1986, p. 177). Until then, the focus of the environmental movement had been on preserving wildlife and limiting growth, but this report recognised that the successful conservation of nature is dependent on alleviating poverty. The report “stressed the interdependence of conservation and development in which development depends on caring for the earth” (UNCSD, 2014), introducing the concept of sustainable development and the contents laid much of the groundwork that allowed for the development of the triple bottom line (TBL) model in years to come. It played an influential part in the formation of the World Commission on Environment and Development (WCED) in 1983 which was subsequently tasked with formulating ‘A global agenda for change’ (Reid, 2013, p.55).

The subsequent work of the WCED resulted in the publication of the seminal document ‘Our Changing World’ which has since become known as the Brundtland Report after the Chair of the Council, Gro Harlem Brundtland. The report argued that despite widespread scientific and technological advances that had been able to create major improvements to life (e.g., reduced infant mortality, improved overall life expectancy, more children in school and food production that increased at a greater level than the population grew), humanity was still facing
potentially devastating problems. The Report argued that in order to avoid this impending
catastrophe it had become imperative for humanity to engage in what was termed as
sustainable development. This was defined as “development that meets the needs of the present
without compromising the ability of future generations to meet their own needs” (WCED,
1987, p.1). This definition, commonly referred to as the Brundtland definition, is “the most
frequently cited one and seems to be more exhaustive than the majority of other definitions”
(Ciegis, Ramanauskiene, & Martinkus, 2009, p. 30) and all use of the terms sustainable,
sustainability, sustainable business or sustainable development in this study will use this
definition as their basis.

**Business sustainability**

Since the late 1980s there has been “a deluge of sustainability literature” (Toman & Pezzey,
2002, p. 12) as interest in the concept and concern at the implications it presented grew,
particularly within academic institutions and non-government agencies. However, this concern
was not universal (Beckerman, 1994; Common & Perrings, 1992). Until the early 21st century,
the commercial sector largely rejected the concept as being a hindrance to the successful
pursuit of commerce (Holliday, Schmidheiny, Watts, & World Business Council for
Sustainable Development, 2002). However, by then the impacts of unsustainable human
activity were no longer able to be ignored, and it became increasingly accepted that existing
business models needed to adapt in response.

An increasing number of business thinkers and leaders began to reassess the idea of
sustainability, evaluating ways that sustainable business practices could practically be applied.
This led to the realisation that rather than simply being a cost, there were in fact many direct
business benefits that were able to be enjoyed through operating sustainably (Dyllick &
Hockerts, 2002; Elkington, 1998; Snierson, 2008). Interest in sustainable business grew rapidly
as increasing numbers of businesses began to implement appropriate business practices, a trend
that is evidenced by the growth in membership of the Dow Jones Sustainability Index. The Index reported that in 1989, there were 469 companies listed and by 2014 this number had grown more than 380 percent to 1,813 companies listed as being assessed (Dow Jones Sustainability Indices, 2014). This trend has continued, and as has been previously discussed, sustainability is becoming a common and influential driver of business decision making. In their 2010 survey of global business leaders, consultants McKinsey & Company reported that three percent of Chief Executives identified sustainability as their most important priority with a further 31 percent placing it in their top three business priorities. By 2014, these numbers had grown to 13 percent noting sustainability as their top priority with 36 percent placing it in their top three (Bonini & Bove, 2014).

**Consumer need for businesses to be sustainable**

What is sometimes disregarded in the sustainability debate, is the need that consumers have for the businesses that supply them with the majority of their daily requirements, from food and shelter to entertainment and education. At the same time, businesses provide the paid employment that allows consumers agency in how they satisfy these needs. If businesses are not able to sustain continuous operation, then they are likely to be unable to satisfy consumers with many of their daily survival needs or provide security and employment. It is therefore arguably at least as important for consumers that businesses are able to operate sustainably as it is for the businesses themselves.

**Research motivation and benefits**

As sustainability has been the subject of a considerable volume of research, it could be argued that the concept is becoming well understood and the veracity of the ideas behind it have become generally accepted by both the academic and corporate communities. A review of the literature suggests that how consumers understand sustainability and the attitudes they hold towards the concept have received comparatively little attention. The concept of ‘green
consumers’ has been widely discussed, as has how consumers respond towards corporate social behaviour. However it is apparent that little has been done to gain an understanding of whether consumers see sustainability as a holistic systems oriented concept and not merely another form of environmentalism. The OECD recognises that consumers are central to “driving sustainable production and play a central role in sustainable development” (OECD, 2008, p.1), therefore this deficit warrants attention.

The increasingly evident growth in interest shown by the business community suggests that they are listening, but if consumers are not engaged it could be argued that the efforts of the business community will, at best, be limited. The motivation behind this study is to add to the available information through identifying the attitudes consumers hold towards the concept. This knowledge will be of interest to both political policy makers and businesses.

**Research design overview**

This study will seek to achieve its aims through canvassing the views of a group of New Zealand consumers selected to be representative of the population of interest using a quantitative data collection methodology. The data collected will undergo analysis using SPSS software in order to answer the following three research questions:

1. “What does sustainability mean to consumers?”
2. “How do consumers feel about sustainability?”
3. “Does sustainability influence consumer behaviour?”

These three questions address the cognitive, affective and behavioural components of attitudes and the data collection method will be designed to be able to provide answers to all three questions in regards to the environmental, social and economic dimensions of sustainability.
By taking this approach, this study aims to assess whether the respondents see sustainability as a holistic concept as well as identifying their attitudes to sustainability.
2. BACKGROUND AND LITERATURE REVIEW

*Sustainability*

As has been previously discussed, interest in the concept of sustainability, as discussed in this study, is a relatively recent phenomenon, yet has attracted considerable attention resulting in an abundance of discussion and analysis from virtually every sector (e.g. Clark & Dickson, 2003; Montiel & Delgado-Ceballos, 2014; Toman & Pezzey, 2002; Yates, 2012; Zollo, Cennamo, & Neumann, 2013). This review will focus its attention on how it has come to be defined and conceptualised, with emphasis on the perspective of the business community.

**Challenges to defining sustainability**

Despite the volume of research conducted, with the attendant high levels of debate, the formation of a definition has continued to prove challenging with Gow (1992) remarking that “sustainability is like happiness--everyone believes in it and everyone has a different definition. In fact, sustainability has become so all-encompassing as to be virtually toothless” (p. 51). Hrivnak remarked (2007, p. 167) that “the term ‘sustainability’ is often-used as a woolly term for everything that is good and desirable”. Owens (2003) argues that there is no single meaningful definition of sustainability and recognises that the definition changes to reflect the social, economic and environmental factors relevant to the situation. Jabareen (2008) noted “a critical review shows that the definitions of sustainability are vague; there is a lack of operative definitions and disagreement over what should be sustained” (p. 179). Aras and Crowther (2009) commented that “sustainability” is used so often that it has become “effectively meaningless” (p. 979). Hume (2010) recognises that there is no clear framework or terms of reference with which to develop strategies to change attitudes and behaviours and thereby develop appropriate policies. As a result, it is harder for the business community to develop and implement sustainable strategies (Battisti, Lee & Cameron, 2009; Epstein & Roy, 2000; Eweje, 2011).
Another factor hampering the formation of a commonly accepted definition of sustainability is an argument that by its definition sustainability, especially when applied to commercial activities, is illogical and therefore impossible. Johnson (2007) argued that one reason sustainability is difficult to define is because unless an entity is able to operate infinitely, it is logically not sustainable. This challenge to the ideal of continuous growth is supported by Bonevac (2010), who states that sustainable growth cannot be applied to material things for an infinite period, and that because of this the Brundtland definition of sustainability is logically impossible. This argument is supported by Aras and Crowther (2009) who maintain that a sustainable activity is one in which decisions made in the present do not restrict the choices available in the future and that those choices and the situations influencing them are unknown.

Despite these and other challenges, there continue to be extensive efforts to answer the question of how to define sustainability and Luchsinger (2009) identified themes common to most definitions. These include attention to resource use while recognising the need for constraint in consumption; awareness of relationships between economy, society and the environment; responsibility for impact on the natural world while ensuring ongoing economic viability and managing stakeholder relationships to ensure they remain viable and healthy. It was becoming increasingly obvious that overcoming the challenges that threatened sustainability would require a holistic and inclusive approach that addressed the needs of the environment as well as working for a robust and vital society while ensuring that the business sector could continue and thrive.
The triple bottom line (TBL)

By the 1990s, there was little doubt that for sustainable development to succeed, it needed to maintain social equity and to ensure ongoing economic stability in addition to protecting the natural environment. It was becoming apparent that sustainable development was only possible when it was approached as an “interconnected, social and ecological network governed by biological and physical processes” (Stead & Stead, 1994, p. 15). In 1994 John Elkington, the founder of a British consultancy called SustainAbility, introduced the term triple bottom line or TBL (Elkington, 1997) which is sometimes described as the three Ps: people, planet, and profit (Slaper & Hall, 2011). Luchsinger (2009), provided a succinct definition: “conducting business in a manner of economic, social and environmental responsibility” (p. 163). By framing sustainability with language and concepts familiar to the business community it has become easier for corporations to gain awareness of their impact on social and environmental values and to engage in effective measurement and management of factors influencing economic sustainability (Berger, Cunningham, & Drumwright, 2007; Brown, Dillard, & Marshall, 2006; Gibson, 2006). This was supported by Gladwin, Kennelly & Krause (1995) in their recognition that there needed to be an integration of humanity and the environment for sustainable development to be possible.

Despite the widespread acceptance of the TBL model, it has nonetheless been subjected to some criticism. Sridhar and Jones (2012) identify three fundamental weaknesses in the difficulty of measuring corporate social performance, in the need for a systemic approach for all factors and problems with the integration of the three dimensions. These and similar limitations have been widely acknowledged (Norman & MacDonald, 2003; Robins, 2006), however the extent of the limitations does not support adopting any of the alternative models currently being discussed (Pava, 2007; Savitz & Weber, 2013). Interest in the TBL, particularly by businesses and the media, is growing rapidly (Tullberg, 2012). This has led to
widespread development of standards and systems to improve the quality of reporting (Scerri & James, 2010; Skouloudis, Evangelinos, & Kourmousis, 2009) and the publication of material assisting businesses in the use of TBL reporting to improve their sustainability performance are now readily available ((Dalal-Clayton, 2014; Henriques & Richardson, 2004). As a result, TBL reporting is an important and valuable tool for businesses to achieve sustainable operations (Perrott, 2014).

It is worth noting however, that despite the widespread acceptance of the TBL model, there are arguments in support of additional dimensions and even adoption of new models (Lawn, 2003; Teriman, Yigitcanlar, & Mayere, 2009). While these alternative models have gained some support and acceptance, within the business community the TBL is still the most respected and widely used model (Fauzi, Svensson, & Rahman, 2010; Perrott, 2014).

However, although there has been widespread recognition of the need for both social and environmental sustainability, the acceptance of the role of economic sustainability has been somewhat more elusive (Doane & McGillivray, 2001). This is in part due to the long-held belief that it not only costs money to adopt socially or environmentally sustainable strategies, but it can even be a distraction from engaging in core business activities (Aupperie, Carroll, & Hatfield, 1985; Clark, 2005; Reinhardt, Stavins, & Victor, 2008). At the same time, the term sustainability is often used by business commentators to describe a business as merely remaining profitable, with economic sustainability having been defined as “using the assorted assets of the company efficiently to allow it to continue functioning profitability over time” (Satish Pandian, Jawahar, & Nachiappan, 2013, p.92).

**Business explanation of sustainability**

Consulting firm KPMG argues that business sustainability requires: “adopting business strategies that meet the needs of the enterprise and its stakeholders today while sustaining the
resources, both human and natural, that will be needed in the future” (KPMG, 2011, p. 12). Price Waterhouse Coopers (PwC) describe sustainable business as “a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations” (PwC, 2011). This somewhat more embracing explanation perhaps reflects the function of PWC as advisors to business in that it considers the role and impact of investments, technology and institutional change on sustainability. Other consultants and business advisors either use or base their definition on the Brundtland definition but generally expand to define and explain how they address the process of engaging in sustainable business practices (ARUP, 2014; Aura Sustainability, 2014).

As with the academic world, the business community has undertaken considerable effort to understand and define sustainability and found the task to be similarly challenging; however a factor common to almost all explanations is the triple bottom line (TBL). Morrish, Miles and Polonsky (2010) argue that the acceptance and use of the TBL is a requirement for the ongoing viability of New Zealand businesses. This position was previously presented by Goldberg (2001) in a paper prepared for the New Zealand Government regarding the policy implications of sustainability. Goldberg (2001) argued that any form of sustainability would be difficult without engaging in all three aspects of sustainability, and described a need for “the integration of economic, social and environmental factors in decision-making at all levels” (p. 7). Luchsinger (2009) and Kemp and Martens (2007) also argued that effectively operationalising sustainability involves attention to all three dimensions. This was the position that The Department of the Prime Minister (NZDPM) worked from when discussing sustainability for New Zealand (Goldberg, 2001). They used the Brundtland definition to define sustainable development, expanding it by adding “looking after people, taking the long term view, taking
into account social, economic, environmental and cultural effects of our decisions” (NZDPM, 2003). It is interesting to note that the NZDPM document was produced 16 years after the Brundtland definition was first aired, yet this was the definition of sustainability the authors used which is indicative of the strength of the original conceptualisation of the challenges perceived.

Hume (2010) argues that the diversity of definitions is a limiting factor because individual businesses operate under a great many differentiating factors such as location, size, purpose and nature of business. This makes it difficult, particularly for individual businesses, to fully understand and operationalise business sustainability. When evaluating sustainability from the perspective of small and medium enterprises (SME) Battisti et al. (2009) identified that many definitions of sustainability are not context specific and therefore have limited relevance to small organisations. Lawrence, Collins, Pavlovich & Arunachalam (2006) agreed that the “very concept of sustainable business practice for small firms is elusive” (p.242). This is especially important when exploring sustainability from a New Zealand perspective as small businesses are the dominant face of commerce in this country, with 97.2% of New Zealand businesses having nineteen or fewer employees (MED, 2011).

Consulting firms and lobby groups have a major influence on the way the business community operates, so it is appropriate to consider how these groups define and understand sustainability. The New Zealand Business Council for Sustainable Development (NZBCSD) recognises that the Brundtland definition expresses the idea, but lacks the ability to be transposed to specific industries and individual situations. They do not present a solution to this issue, instead suggesting adoption of the definition used by the United Kingdom government: "sustainable development is about ensuring a better quality of life for everyone, now and for generations to come” (NZBCSD, 2014). While this may be simple and easily understood, it is little more than a rewording of the original Brundtland definition.
The concept of corporate social responsibility, or CSR, having existed in the business lexicon since the 1950s (Carroll, 1999; Runhaar & Lafferty, 2009) is often taken as synonymous with sustainability as they both address the role of business in protecting the needs of society. Although sustainably run businesses are engaged in CSR behaviour and demonstrating a commitment to CSR will contribute to corporate sustainability, they are not the same thing (Kolk & Tulder, 2010; Montiel, 2008). Engaging in CSR, regardless of motivation, is the process of addressing specific impacts of business on society (Ablander, 2011; Galbreath, 2010; Smith & Alexander, 2013). Sustainability, as has been discussed previously in this study, is focused on a business’s ability to operate in an economically viable manner for an indefinite period.

**Consumer definition of sustainability**

Despite the wide-ranging debate and extensive work that has gone into finding ways to understand and define sustainability from an academic and/or business perspective, what consumers understand sustainability to mean would appear to have received little attention. Extensive searches of published material from both the academic and public literature has found nothing substantive that specifically examines how consumers define and understand the concept of sustainability.

It is possible that this deficit is influenced by the wide-ranging and heterogeneous nature of the construct 'consumers' making a common definition elusive. This argument is in part supported by the fact that there is some research on knowledge and feelings towards sustainability in specific groups such as students (Ng & Burke, 2010), tourists (Tribe, Rathouse, Scarles, & Holmes, 2010), wine consumers (Forbes, Cohen, Cullen, Wratten & Fountain, 2009) and fast moving consumer goods (FMCG) users (Harris, 2007). However, many of the populations assessed by these studies have little in common with one another and contain limited discussion on how consumers understand sustainability as an overarching concept. Market
research company Shape NZ was commissioned by the New Zealand Ministry for the Environment to “to benchmark New Zealanders’ attitudes and behaviour with regard to acting sustainably in the home” (Johnson, Fryer & Raggett, 2008, p.4). In this analysis of the attitudes of over 1000 consumers, there was no recognition of the social and economic dimensions of sustainability and no analysis of consumer attitudes towards business behaviour.

**Consumer support for sustainable business**

The limited volume of research conducted on consumers’ definitions of sustainability has made assessing consumer response and support for sustainability as a concept problematic because there is insufficient confidence that the same concept is being assessed by all consumers. There has, however, been considerable and sustained agreement over that consumers respond positively to claims of environmentally responsible corporate behaviour (Green & Peloza, 2014; Lemke & Pereira Luzio, 2014; Peattie, 2001). This support is tempered by consumer distrust that claims made by manufacturers and suppliers are exaggerated or inaccurate (Peattie & Crane, 2005) and prices are higher or availability is constrained (Pedersen & Neergaard, 2006). This deficit in the available literature has had a major influence in developing the research questions posed by this study.

**Attitudes**

Attitude as a construct has been extensively debated and explored, and Allport (1968, p.59) was cited by Fishbein and Ajzen (1975) as stating that attitude was: “the most distinctive and indispensable concept in contemporary American social psychology”. An early and frequently cited definition of attitude is “the readiness of the psyche to act or react in a certain way” (Jung, 1923, p. 687). A later definition was “the predisposition of the individual to evaluate some symbol or object or aspect of his world in a favourable or unfavourable manner” (Katz, 1960, p. 168) which introduced the idea that attitudes result in value-based assessments of the attitude object. This led Fishbein and Ajzen to extend the definition to “a learned
predisposition to respond in a consistently favourable or unfavourable manner with respect to a
given object” (1975, p.6). This extension includes the impact of learning and that attitudes
precede actions. More recently Bohner & Dickel (2010, p. 392) argue that attitudes can be
defined as “stable entities stored in memory versus temporary judgments constructed on the
spot from the information at hand” which reinforces the idea that they are in part learned and,
though durable, can therefore be changed.

The components of attitudes
This leads to recognising that attitudes consist of three specific components: the cognitive; or
what is believed by the attitude holder, the affective component; or what is a felt by the attitude
holder and the behavioural or action tendency component (Chaiken & Baldwin, 1981; Cottam,
2004; Moorman, 1993). Action tendencies are directed towards attitude objects, which can be
concepts, physical items or other stimuli in the environment towards which the attitude is
directed. The attitude object of interest to this study is the concept of sustainability.

Influencing attitudes
There is a strong argument supporting the effectiveness of using advertising as a tool to
influence the action tendencies of consumers through the cognitive and affective components
(Aaker, Stayman, & Vezina, 1988; Baron, 2004; Batra & Holbrook, 1990; Ruth, Brunel, &
Otnes, 2002). Lavidge & Steiner (1961, p.2), as cited by Grewal, Kavanoor, Fern, Costley &
Barnes (1997), recognise the value to be achieved through separating “the objectives of
advertising into three main functions: cognitive, affective and conative”. Singh & Smith (2005)
identified that advertising increased consumer knowledge and provided a sense of
empowerment, which in turn influenced behavioural intentions, an argument supported by
Grewal et. al. (1997). Product labelling also fulfils a role in influencing consumer cognition.
Charters, Lockshin & Unwin (1999) identified that wine back label content influenced
consumer behaviour, a finding that was supported by Lalor, Madden, McKenzie & Wall
(2010), who reported that consumer buying intentions were influenced by health claims in food labelling.

**The role of attitudes in sustainable behaviour**

Attitude has been used in attempts to account for a wide range of human behaviour, leading to vague and even ambiguous ways of framing the concept and to difficulty in finding valid methods with which to measure attitude (Fishbein & Ajzen, 1975). Hale, Householder and Greene (2003) report that Fishbein and Ajzen’s frustration with the ambiguity led to the development of the Theory of Reasoned Action. This theory seeks to measure and predict behavioural intention using attitude as one variable with subjective norms as the other. From the perspective of influencing behavioural change towards sustainability, this is important as the core aspects of sustainable behaviour are increasingly becoming normative behaviour (McDonald and Oates, 2010; Sparks and Shepherd, 1992; Young, Hwang, McDonald & Oates, 2010). Participating in the activities required to live sustainably could be described as a reflection of a consumer’s personal values as there are few intrinsic benefits attached to this behaviour. This, therefore, engages the value-expressive function of attitudes (Katz, 1960).

The relationship between attitudes and behaviour has been widely studied. Ajzen (1991, p. 179) identified “intentions to perform behaviours of different kinds can be predicted with high accuracy from attitudes towards the behaviour, subjective norms, and perceived behavioural control”. Glasman & Albarracin (2006) identified that attitudes had a correlation with future behaviour. However, the strength of that correlation was influenced by a number of factors, including the confidence with which the attitudes are held and their accessibility (Roskos-Ewoldsen & Fazio, 1997). This would suggest that the ability of consumers to form positive thoughts and feelings toward sustainability would influence the likelihood that their attitudes would support sustainability and the likelihood that their behaviour would be determined by
these attitudes. It is therefore important to identify what consumers think and feel about sustainability.

Until very recently there has been limited discussion regarding consumers and their attitudes or awareness of sustainability as a holistic concept with most of the attention being directed towards identifying common characteristics of consumers who are already engaged in or strongly supportive of environmentally responsible behaviour (e.g. Gilg, Barr, & Ford, 2005; Jansson, Marell, & Nordlund, 2010; Peattie, 2001; Moisander & Pesonen, 2002; Straughan & Roberts, 1999; Thøgersen, 2006). While this strategy appeals to marketers because it makes it relatively easy to identify and target these consumers (Straughan & Roberts, 1999), there is a growing body of evidence against this approach (Straughan & Roberts, 1999). This is because the characteristics of sustainability, whether environmental, social or economic, are in fact attractive to the majority of consumers (Grail Research, 2009; Ottman, 2011; Peattie, 2001; Shrum, McCarty & Lowery, 1995; Straughan & Roberts, 1999). There is even the argument that we are all ‘green consumers” (Norris, 1997; Townsend, 2013) and that displaying green behaviour would seem to be a core societal value (Ottman, 1998; Peattie, 2001; Johnson, Fryer & Raggett, 2008), or general cultural behaviour (Caruana, 2007). As a result, some green behaviour such as recycling and not littering has become normative social behaviour (McDonald and Oates, 2010; Sparks and Shepherd, 1992; Young, Hwang, McDonald & Oates, 2009) while other green behaviours (e.g. using energy saving light bulbs, cutting back on car usage) simply make economic sense.

How consumers think and feel towards sustainability is likely to be wide-ranging and shaped by a complex mix of social interaction, media communication and formal education (Bridges & Wilhelm, 2008; Kearins & Fryer, 2011; Keys, Thomsen & Smith, 2010; Kolandi-Matchett, 2009). Finding a single cohesive thread in how consumers see and understand sustainability presents a major challenge, especially as sustainability is inherently subjective (Kemp &
Martens, 2007). Schaefer and Crane, (2005) recognised that sustainable consumption was a contested subject, and that changing consumer behaviour was going to be shaped by providing these consumers with the answers to questions such as “what is meant by sustainability” (p. 77). As with business and academic definitions there are inevitably going to be common threads, and it is important to be able to identify these and to put them into a framework that will provide greater understanding of consumer attitudes. Developing this framework will allow more effective understanding of the drivers of consumer behaviour.
METHOD

This is an exploratory study intended to gain knowledge regarding the attitudes New Zealand consumers hold towards sustainability and sustainable business practices. As has been previously discussed, there is widespread agreement that sustainability is comprised of three dimensions: environmental, social and economic sustainability. These dimensions, while distinct from one another, are nonetheless interdependent and must all be fulfilled for sustainability to be possible.

Due to its exploratory nature, this study will not attempt to describe or explain the factors that determine consumer attitudes or behaviour. The intention of this study is rather to gain an appreciation of whether consumers recognise sustainability as a holistic concept and their attitudes towards each dimension of sustainability.

To that end, it will seek to answer the following three research questions:

- Cognitive response: “What does sustainability mean to consumers?”
- Affective response: “How do consumers feel about sustainability?”
- Behavioural response: “How does sustainability influence consumer behaviour?”

Although exploratory studies typically use qualitative research methods such as focus groups and interviews, the fact that a definition of sustainability has proven somewhat elusive suggested that an effective strategy would be to use quantitative methods instead. It was felt that a data collection instrument collecting the cognitive, affective and behavioural responses of a representative sample to each of the three dimensions of sustainability would be able to provide the data required to answer the research questions.
Data collection

To resolve the challenges created by the diverse and widespread characteristics of the population of interest (New Zealand consumers), the data collection method needed to be easy to distribute, readily accessible and quick to complete by as many different people as possible. The issues created by the contested and increasingly value-charged nature of sustainability required the data collection method to be anonymous and able to be completed privately. These factors suggested that appropriate data collection methods for this study were self-completed postal or internet based surveys.

Postal surveys have been widely used as an effective method of data collection for many years and have resulted in good results in comparable situations. They allow respondent anonymity and are able to survey large and geographically widespread populations in a cost effective way; however they are susceptible to non-response bias due to the effort required to complete and post the survey back to the researcher (Kelly, 2007). In addition, their effectiveness in conducting attitudinal surveys of this nature can be limited because the respondent is able to read the entire survey before completing (Brace, 2004; Kelly, 2007; Smith, 2007).

Online surveys, while a relatively new data collection method, are now widely used and proving to be effective (Couper & Miller, 2008; Kypri, Gallagher & Cashell-Smith, 2004; Sills & Song, 2002). They benefit from good response rate, are low cost and typically need less data entry than mail surveys (Alessi & Martin, 2010; Brace, 2004; Kelly, 2007); important factors given the resources available to this study. The quality of the data produced by online surveys is reported to be comparable in quality to the data from mail surveys (Brace, 2004; Truell, 2003). This characteristic is of value to this study because the contested nature of defining sustainability means there is often a degree of controversy over the subject.
Historically, online surveys have been considered to be susceptible to sample validity because internet use has been more prevalent among certain demographic groups (Duda & Nobile, 2010). However, this limitation has been largely overcome due to a widely reported substantial increase in the percentage of consumers who have ready access to the internet. This is supported in a comparison of the results obtained by mail and internet surveys which identified that there were no significant differences in the data collected by the two methods (Gigliotti, 2010). Van Gelder, Bretveld & Roeleveld (2010) reported that the profile of respondents to internet based surveys now compares very closely to that of traditional data collection methods and argued that any limitations of internet based surveys were diminishing rapidly. Following an assessment of the strengths and weaknesses of both methods and in consideration of the needs presented by this study it was decided that a self-completed internet based survey would be both an effective way of collecting the data and would serve to overcome the challenges discussed earlier.

**Sampling plan**

With the decision made to use a self-completed online survey, the next challenge was to develop a sampling plan that would provide the appropriate data while continuing to resolve the identified challenges. This entailed providing concurrent access to the instrument by a large group of individuals representing as wide a range of demographic profiles as possible. Out of the options considered, it was decided that promoting the survey to the members of a large organisation would be the most appropriate and after assessing the options available the employees of Christchurch City Council (CCC) were was seen as being suitable for this study. With over 2500 employees (CCC, 2012) this would be a large enough sample and a strict equal opportunity employment policy increases the range of demographic profiles represented. However, a limitation of this population was that it would not include self-employed people; therefore it was decided to approach the Canterbury Employers’ Chamber of Commerce
(CECC). The CECC, with in excess of 2500 members, claims to represent the interests of 3000 commercial enterprises (CECC, 2013). In addition to self-employed business people, the CECC membership also includes executives employed by member corporations. It was felt that these two groups combined would result in a sample that was representative of New Zealand consumers.

**Instrument design**

The recognised contentious nature of sustainability suggested directly asking the respondents for a definition of sustainability or what they felt or did would be unlikely to produce any useful data, and many respondents would potentially avoid answering such questions. It was therefore decided to canvas the sample by recording their responses using a Likert scale to a series of twenty seven statements that each addressed a single aspect of the environmental, social and economic dimensions of sustainability from either a cognitive, affective or behavioural perspective.

Likert scales were assessed as being an effective tool to achieve this as well as to gain the information needed to learn consumer attitudes towards sustainability because they are widely used in attitudinal surveys and are therefore familiar and easily understood (McLeod, 2008). These statements were written using plain English and avoiding jargon or any technical term that was outside of common usage. Ambiguity was avoided; however there were a number of negatively worded statements placed at random throughout the instrument to discourage pattern answering (Croasmun & Ostrom, 2011).

All items used the same scale and point descriptions to minimise respondent confusion and to permit calculation of internal consistency reliability using the Cronbach’s alpha coefficient (Croasmun & Ostrom, 2011). There has been much debate and limited agreement over the number of points in a Likert-type scale (Croasmun & Ostrom, 2011; Leung, 2011). However,
for this study, ease of completion was an important consideration which supported the decision to use the five-point scale. A neutral option was included as Johns (2005) argued that it is of value in attitudinal studies and it prevents respondents feeling “forced to commit to a certain position” (Croasmun & Ostrom, 2011, p. 20).

Following the Likert items were five simple demographic questions. These were included in order to compare the demographic characteristics of the sample with that of New Zealand society as recorded in the 2006 New Zealand Census.

Instrument distribution

Permission was gained from the CCC to place a link to the survey on the internal intranet which is available to all staff members. Although initial concern was that this would be limited to staff with access to a computer as part of their job, however the researcher was advised that the majority of staff access the intranet as part of their work. Those employees whose role denies them ready access to computers are expected to access the intranet at home.

In the case of the CECC, the link was only able to be placed in the members-only section, and the researcher was advised that most members do not visit this on a regular basis. Internal policy prohibited active promotion of the survey to members. Therefore it was likely that the survey would not be viewed unless a member was accessing this section of the website for other purposes. However given the size of the organisation, it was anticipated that there would be sufficient day-to-day traffic to generate enough responses to provide a representative sample.

Pre-testing the questionnaire

Pre-testing the questions in their questionnaire context was an important step to ensure that the questions and instructions were able to be understood by all respondents (Collins, 2003) and to help identify any ambivalent or confusing statements (Evans & Mathur, 2005). The final draft
of the questionnaire was sent to twenty of the researcher’s personal contacts individually
selected in order to represent as wide a range of demographic profiles as possible. They were
given five days to complete the survey and of the twenty recipients, fourteen completed it. At
the end of the survey additional questions were included that were only used in the pre-test that
sought to identify any ambiguous statements, how relevant the respondents found the
statements and the time taken to complete the survey. In the accompanying email, they were
asked to note any statements that they felt needed attention and for any comments they wanted
to make. In addition, ten members of the test sample were interviewed by phone. The feedback
gained from this pre-testing identified that minor changes were needed in the wording of some
statements and resulted in slight alterations to the layout of the questionnaire on the Qualtrics
website. See Appendix 1 for the final questionnaire utilised in this study.

**Data collection**

The link to the questionnaire on the Qualtrics website was made available to the employees of
the CCC through the council intranet at 9.00 am on Monday 5 November, 2012 and withdrawn
at 5.00 pm Friday 16 November, 2012. The questionnaire was also placed on the CECC
website on Monday 12 November, 2012 and withdrawn on Friday 23 November, 2012. The
accompanying explanation on both websites explained that the survey was being conducted by
a Lincoln University student as part of a Masters project and that all data collected would be
completely anonymous.

The collected data was able to be directly transferred to SPSS for analysis as discussed in the
following chapter.
3. RESULTS & Discussion

*Response rate*

The CCC employed approximately 2500 people when the survey was made available. A total of 169 completed the survey, resulting in a response rate of 8.4 percent. Unfortunately, the survey placed on the Canterbury Chamber of Commerce website failed to attract any respondents, therefore, the results discussed below only apply to responses from the instrument made available to CCC employees.

*Sample description*

The data collection instrument included six questions that were intended to gain data on the demographic profile of the respondents. Demographic characteristics were then compared with those from the 2006 New Zealand Census of Population and Dwellings in order to identify the extent that the sample reflected New Zealand consumers. This demographic data is illustrated in Table 3.1 below.
<table>
<thead>
<tr>
<th>Table 3-1 Demographic characteristics of the sample</th>
<th>Sample %</th>
<th>2006 Census %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35.8</td>
<td>48.8</td>
</tr>
<tr>
<td>Female</td>
<td>64.2</td>
<td>51.2</td>
</tr>
<tr>
<td>Age bracket</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 29</td>
<td>10.0</td>
<td>18.2</td>
</tr>
<tr>
<td>30 - 39</td>
<td>23.0</td>
<td>20.0</td>
</tr>
<tr>
<td>40 - 49</td>
<td>33.0</td>
<td>20.9</td>
</tr>
<tr>
<td>50 - 59</td>
<td>18.0</td>
<td>17.0</td>
</tr>
<tr>
<td>60 – 69</td>
<td>13.0</td>
<td>11.8</td>
</tr>
<tr>
<td>70 plus</td>
<td>2.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>17.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Diploma, trade or workplace qualification</td>
<td>25.0</td>
<td>48.0</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>35.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>22.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Other or prefer not to say</td>
<td>2.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employment</td>
<td>11.1</td>
<td>11.0</td>
</tr>
<tr>
<td>Employed by someone else</td>
<td>78.4</td>
<td>39.6</td>
</tr>
<tr>
<td>Not in paid employment</td>
<td>3.7</td>
<td>29.7</td>
</tr>
<tr>
<td>Studying</td>
<td>2.5</td>
<td>1.4</td>
</tr>
<tr>
<td>Retired</td>
<td>3.3</td>
<td>13.8</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>1.0</td>
<td>4.4</td>
</tr>
<tr>
<td>Income (NZD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-10,000</td>
<td>3.1</td>
<td>19.3</td>
</tr>
<tr>
<td>10,001 – 15,000</td>
<td>0.6</td>
<td>11.3</td>
</tr>
<tr>
<td>15,001-20,000</td>
<td>1.9</td>
<td>8.2</td>
</tr>
<tr>
<td>20,001 to 25,000</td>
<td>3.1</td>
<td>7.0</td>
</tr>
<tr>
<td>25,001 to 30,000</td>
<td>3.1</td>
<td>6.8</td>
</tr>
<tr>
<td>30,001 to $35,000</td>
<td>4.9</td>
<td>6.4</td>
</tr>
<tr>
<td>35,000 to 40,000</td>
<td>6.2</td>
<td>6.4</td>
</tr>
<tr>
<td>40,001 to 50,000</td>
<td>14.2</td>
<td>8.3</td>
</tr>
<tr>
<td>50,001 to 70,000</td>
<td>30.3</td>
<td>8.9</td>
</tr>
<tr>
<td>70,001 to 100,000</td>
<td>14.8</td>
<td>4.0</td>
</tr>
<tr>
<td>100,001 plus</td>
<td>9.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Not stated</td>
<td>8.6</td>
<td>10.0</td>
</tr>
</tbody>
</table>

**Gender**

When taken in its entirety, women were over-represented in the sample relative to both the gender profile of the CCC and of the New Zealand population. A possible explanation for this discrepancy is that while the instrument was made available to everyone employed by the
CCC, the mechanism for responding meant that it was more readily accessible to those employees with regular access to a computer during working hours. While specific data was unavailable, the researcher was advised by a CCC representative that there are typically more women working in office based roles and more men in field-based roles. Thus, men would be less likely to have ready access to a computer and the internet, at least during working hours.

**Age**

Compared to the New Zealand population, the sample was under-represented in the over 70 age group. This was to be expected as the sample was sourced from a workplace and thus unlikely to include a representative number of respondents older than the retirement age of 65. The lower representation of younger respondents is less easy to explain. However, the percentage of respondents in the higher income brackets and those with tertiary qualifications were both higher than in the New Zealand population. This suggests that the respondents were typically employed in more senior positions. This might thus explain why younger respondents were under-represented.

**Education**

The percentage of respondents with an undergraduate or postgraduate university degree was substantially greater than that of the New Zealand population. This would suggest that the sample was primarily made up of respondents who held office-based jobs where a higher level of education is more likely to be a requirement.

**Employment**

The respondents were predominantly employees of the CCC, although it was surprising that 22 per cent of the sample described themselves as non-CCC employees. In a telephone conversation with a representative of the CCC the researcher was advised that the self-employed people in this sample are likely to be independent contractors working for the CCC.
Further, some of the respondents identified themselves as either students or not in paid employment. This group was most likely to contain volunteers or students in work experience schemes.

**Income**

The distribution of incomes in the sample was quite different to distribution in the general population. Specifically, the higher income brackets were overrepresented in the sample. As above, this was more likely a reflection of the employment profile of the CCC and nature of the work respondents do; those working in white-collar roles were more likely to respond than those working in the field. The former group are more likely to be better educated and better paid.

**Data analysis**

The data underwent analysis using SPSS to calculate descriptive statistics and to assess the internal reliability of the items measuring the dimensions of sustainability and components of attitudes. As has been previously discussed, there were a number of negatively worded statements included in the survey. To allow for easier interpretation, the data for these items has been reverse-coded, and the wording of the accompanying statement has been altered appropriately. These items are all identified in the accompanying text.
**Environmental sustainability**

The nine items sought to gain an awareness of the extent that the respondents knew sustainability had an environmental dimension, how they felt about it and the extent that it influenced their behaviour.

**Cognitive component**

Figures 3.1 to 3.3 illustrate the responses to the three items measuring the cognitive dimension of attitudes towards environmental sustainability. The item illustrated by Figure 3.3 was negatively worded in the questionnaire. The label and presentation of the responses to the item in Figure 3.3 have been adjusted to reflect this.

![Figure 3-1](image1.png)

**Figure 3-1. Sustainable businesses consider their impact on the natural environment (n=166)**

![Figure 3-2](image2.png)

**Figure 3-2. Sustainable businesses use resources efficiently (n=164)**
The responses to these three items suggest that most of the respondents understand that sustainability has an environmental component. This is especially evident in Figures 3.1 and 3.2 with 70.43 percent and 69.35 percent respectively either agreeing somewhat or agreeing strongly with the item; however there was a lower level of certainty displayed with the statement illustrated in Figure 3.3 that “the impact of business activity on the environment is overstated” with 27.42 percent neither agreeing nor disagreeing.

A possible explanation for this is that negatively worded statements have an increased potential to confuse respondents (Ebesutani et al., 2012; Stewart & Frye, 2004; Weems & Onwuegbuzie, 2001). This argument has some support when the percentage of “unsure” and missing responses to all seven negatively worded statements in this study was compared with the twenty positively worded statements. Just over 37 percent of the respondents selected the “neither agree nor disagree” in response to the negatively worded statements. This is compared to somewhat fewer than 29 percent of the respondents selecting the same option in response to the positively worded statements. This is discussed further in the limitations section of this study.

Alternatively, it is possible that the respondents were less confident in their knowledge of the impact of business activity on the environment and were, therefore, unwilling to commit to a
position on the subject. This would support the view that modern urban consumers are increasingly disconnected from the natural environment, resulting in limited awareness of the extent of the impact caused by human activities (Arcury & Christianson, 1990; Kals, Schumacher, & Montada, 1999; Mikels-Carrasco, 2010). This is an area that would warrant further study.

**Affective component**

How the respondents felt about environmental sustainability is illustrated in Figures 3.4 to 3.6 following. Figure 3.4 refers to a negatively worded item; therefore the data presented and wording have been altered to suit.

**Figure 3-4** I’m worried about the impact of business activity on the environment (n=163).

**Figure 3-5** I’m glad that sustainable businesses do not waste resources like water or electricity (n=166)
The environmental dimension produced some interesting results with low numbers of respondents disagreeing with the importance of environmental sustainability which contrasted strongly with the number of respondents agreeing or agreeing strongly. These results are similar to those obtained for cognitive awareness of environmental sustainability, therefore it could be surmised from this that a relationship exists between how the respondents think about the environmental component of sustainability and their feelings towards it. While this study does not specifically address that relationship, it supports the argument that understanding environmental sustainability results in greater emotional commitment (Al-Rafee & Cronan, 2006; Cook & Berrenberg, 2010; Nicholson & Xiao, 2010).
**Behavioural component**

The results from the items measuring the behavioural component are illustrated in Figures 3.7 to 3.9 below. Figure 3.8 refers to a negatively worded item with the data and wording altered accordingly.

Figure 3-7 I prefer to deal with companies that operate in an environmentally responsible way (n=167).

Figure 3-8 Environmental claims about products have an impact on whether I buy them (n=166)
These three items indicate that the behaviour of consumers is likely to align with what they know and what they feel about environmental sustainability. This was especially evident in Figure 3.7, with 77.95 percent of the respondents agreeing or strongly agreeing with the statement expressing support for environmentally responsible businesses. These results indicate that consumers’ behaviour towards environmental sustainability mirrors their knowledge and feelings. This is in accordance with the theory of reasoned action (Fishbein & Ajzen, 1975; Homer & Kahle, 1998). Despite this, these results may not, in fact, present an accurate picture of how the respondents actually behave due to a phenomenon often described as the value-action gap. It has been widely recorded that with regards to environmentally supportive actions, even declared behavioural intentions are often at variance from what actually occurs in the marketplace (e.g. Chung & Leung, 2007; Cook & Berrenberg, 2010; Kollmuss & Agyeman, 2002; Pelsmacker, Driesen, & Rayp, 2005; Sammer & Wüstenhagen, 2006). Therefore, it cannot be assumed that the respondents’ behaviours are those that they claim them to be. It would require research beyond the scope of this study to collect the data required to examine the contention. This is further discussed in the limitations section below.
**Social sustainability**

**Cognitive component**

Gaining an understanding of what social sustainability means and how it can be achieved has been a universally slow process (Vifell & Soneryd, 2012); documenting the extent that New Zealand consumers recognise the social dimension of sustainability was an important objective of this study. Figures 3.10 to 3.12 illustrate how the sample responded to the three items used to measure the cognitive component of attitudes towards social sustainability.

![Figure 3-10 Sustainable businesses avoid creating problems for people living nearby (n=165).](image)

![Figure 3-11 A sustainable business invests in its employees' long-term development (n=166).](image)
The social dimension of sustainability has not received the same level of attention as environmental sustainability (Cuthill, 2009); however the results from this study would seem to suggest that the respondents were aware of its role within sustainability.

**Affective component**

The data revealed by Figures 3.13 to 3.15 illustrates how the respondents feel about behaviours supporting social sustainability. Figure 3.15 presents responses to a negatively worded item. As above, data has been reverse-coded and the stimulus statement has been duly reworded.
In all three items, the number of respondents that disagreed with the statements was considerably lower than those that agreed, suggesting that consumers feel strongly in favour of the idea of social sustainability. In items 3.13 and 3.14 there were also very few respondents that neither agreed nor disagreed. However in the negatively worded item represented by Figure 3.15, nearly 36.59 percent of the respondents were unable or unwilling to commit to a position. While this could suggest that there was uncertainty resulting from the negative wording, another possible explanation is that Figures 3.13 and 3.14 apply to how direct stakeholders (customers and suppliers) are treated, whereas 3.15 queries the importance of supporting charities. It is, therefore, possible that consumers feel businesses should place greater emphasis on supporting their direct stakeholders and communities as opposed to third
party charities. An answer to this question is outside of the scope of this study, however it may warrant further research.

**Behavioural component**

This study seeks to ascertain the influence that the social dimension of sustainability exerts on behaviour. This is illustrated by Figures 3.16 to 3.18 with Figure 3.18 referring to a negatively worded item. For the sake of consistency, this item is presented with positive wording, and the distribution of responses reflects this.

Figure 3-16 I prefer to deal with businesses that support charities and organisations in my community (n=167)

![Figure 3-16](image1)

Figure 3-17 I try not to deal with businesses that have poor working conditions (n=167)

![Figure 3-17](image2)
Mirroring the responses to the cognitive and affective items presented above, there is a marked level of behavioural support for organisations that engage in socially responsible business practices. It is also of interest that the level of support is comparable to that for environmental sustainability. Yet, as has been previously discussed, explaining the social sustainability concept and engaging in behaviours consistent with it are less likely to occur than for environmental sustainability. Therefore lower levels of agreement would be expected.

This may reflect the fact that many urban consumers are reported to have limited awareness of the environmental impact of business activity (Gatersleben, Steg, & Vlek, 2002; Roberts & Bacon, 1997; Torgler, 2007). This would therefore make it more likely that they respond positively to the way companies practice social sustainability in the treatment of their communities and stakeholders.

**Economic sustainability**

The purpose and significance of economic sustainability is conceivably less well recognised among consumers than those of environmental and social sustainability (Lorenzo, 2000; Moffat, 2000; Pinter, Hardi, Martinuzzi & Hall, 2012). In order to identify the level that it was understood and in turn to measure the extent that it influenced how people felt and behaved for the present study, nine items were presented in the questionnaire. As with the environmental
and social dimensions of sustainability three items each measured the cognitive, affective and behavioural components of economic sustainability.

**Cognitive component**

What people think about economic sustainability was measured by three questionnaire items. Figures 3.19 to 3.21 illustrate how the sample responded to the cognitive component of this concept.

![Figure 3-19](chart1.png) **Figure 3-19** The most important role of a business is to make money for its owners (n=168).

![Figure 3-20](chart2.png) **Figure 3-20** Sustainable businesses are profitable businesses (n=167).
Figure 3-21 Sustainable businesses invest in research to find more sustainable ways to operate (n=167).

The results illustrated for each of the economic-cognitive items vary from one another to an extent that has not been observed in any other groups of items. Figure 3.19 shows that 57.23 percent of the respondents neither agreed nor disagreed with the statement, with the remainder relatively evenly distributed across three of the four other response options. This suggests that the wording of this item was ambiguous and was therefore unlikely to accurately represent what the participants thought. In figure 3.20, the number of respondents who neither agreed nor disagreed is also high at 44.58 percent; however a similar total number of the respondents either agreed somewhat or agreed strongly (45.18%). While this indicates that respondents sufficiently confident to assert a position were those that agreed with the concept of economic sustainability, it also indicates that more than half of all respondents were unsure or in doubt that sustainability results in economic gain. The results illustrated in both figures 3.19 and 3.20 indicate clearly that there was a considerable degree of uncertainty regarding the economic dimension of sustainability, something that is widely reported in the commercial sector (Dyllick & Hockerts, 2002; Goerner, Lietaer, & Ulanowicz, 2009). The data produced for this study is unable to further assess whether this is correct, however this is a topic that is of considerable interest and therefore warrants further study.
Affective component

The above results illustrating the cognitive component suggested that the respondents lacked confidence in their understanding of the economic dimension of sustainability. It is thus of interest to see whether this lesser confidence continues with the affective component. This is revealed in Figures 3.22 to 3.24 below.

Figure 3.22: I admire people who have become wealthy through business success (n=169).

Figure 3.23: I don’t like it when companies make excessive profits (n=166)
Of interest with these responses is that Figures 3.22 and 3.23 have similarly distributed responses, whereas 3.24 reveals a more singular perspective. This could be explained by the fact that Figure 22 reveals feelings towards individual wealth and Figure 3.23 illustrating responses to corporate profits, neither of which directly impact individuals. However, Figure 3.24 addresses the potentially negative impact of corporate behaviour on people. This would, therefore, indicate that while people may be somewhat ambivalent as to how much money is made, they are considerably less comfortable when that money is made at the expense of consumers. This is reinforced by the results of the social sustainability items which showed a generally higher level of support for corporate social responsibility than for environmentally responsible actions, something that has been reported previously (Goettsche, Goettsche, & Gietl, 2014).

**Behavioural component**

Following on from the assessment of responses to the cognitive and affective components of economic sustainability, the study sought to identify the extent that economic sustainability influenced the behaviour of the respondents. This is illustrated in Figures 3.25 to 3.27 following.
Figures 3.25 and 3.26 reveal very similar response rates to all options; however Figure 3.27 presents a very different picture. The first thing that may provide an explanation is that Figures 3.25 and 3.26 assess how the respondents react in response to the material substance of a
company whereas Figure 3.27 considers the ethical values of a business. Secondly, Figure 3.27 used a negatively worded statement. As has previously been discussed, statements worded this way result in the respondents having less confidence in choosing a position, a view that is supported by 40.86 percent of the respondents neither agreeing nor disagreeing. This is in contrast to Items 3.25 and 3.26 which recorded the same answer from only 24.73 and 19.35 percent of the respondents respectively.

However despite the comparatively high level of uncertainty, only 0.54% of the respondents disagreed with the statement against 47.85 percent who agreed. This would suggest that business ethics are of concern to consumers.

**Comparison of the three dimensions of sustainability**

When examining each of the three dimensions of sustainability there was a clear indication that the respondents were generally cognisant of the dimensions of both environmental and social sustainability. It was also apparent that their thoughts were in turn mirrored by what they felt and how they behaved. However, that was less evident with respect to the economic dimension of sustainability. There was some uncertainty apparent in the responses to the statements regarding economic sustainability and while there was a degree of consistency in their responses to the affective statements, it was less consistent than for either social or environmental sustainability. However, the responses to the behavioural statements were arguably even more disparate than those for the cognitive statements.

To better understand why this occurred, the mean of the percentage responses to all environmental, social and economic statements were calculated individually. These are presented in Figures 3.28 to 3.30. Cronbach's alpha was also calculated for each of the summated indices, and appear in the Figure titles.
It is apparent in Figure 3.28 with an alpha of 0.818, that these nine items display sufficient internal consistency to have confidence that they are all measuring responses to environmental sustainability. With an average of nearly 70 percent of respondents agreeing with the statements, and less than four percent disagreeing, it could be comfortably argued that the majority of respondents are supportive of environmental sustainability.

Similarly, the statements applying to social sustainability can be described as having sufficient internal consistency producing an alpha of 0.787. The responses are also very similar to those produced by the environmental statements, with an average of nearly 78 percent in agreement with the ideas proffered suggesting that the respondents are in favour of issues supporting social sustainability.
Of interest in these results has been the fact that both the environmental and social dimensions of sustainability are recognised as being an intrinsic part of the concept and the respondents have indicated that they are generally positively inclined towards them. However, 12.98 percent disagreeing with those items supporting economic sustainability as opposed to 3.47 percent and 4.64 percent respectively disagreeing with the items addressing environmental and social sustainability. The difference in how the sample responded when asked to consider economic sustainability is further highlighted with 30.01 percent neither agreeing nor disagreeing, whereas 16.31 percent selected that response for environmental sustainability and 17.19 percent for social sustainability. This lends weight to the previously discussed argument that consumers are less certain about economic sustainability than they are over the environmental and social dimensions.

The fact that these results differ markedly from those pertaining to the social and environmental dimensions, and when combined with the low alpha score, raises questions that warrant more detailed discussion. As has been previously identified, the nature and role of economic management as a fundamental dimension of sustainability has not been as readily accepted or understood by the public (Doane & McGillivray, 2001). This comparative lack of clarity about economic sustainability could be an influencing factor in the relative low scores.
attained in the survey. This position gains credence when the responses to the items relevant to each dimension are assessed and compared. This is illustrated by Figure 3.31 below.

The response choices made for the items referring to the environmental and social dimensions are very similar across all options; however there is a marked difference in the response choices made for economic sustainability. While both the negative options were proportionally much higher than they were for the social and environmental dimensions which suggests disagreement with the value of economic sustainability, the total numbers responding was still comparatively low. This can be seen as a limit to the significance of these responses.

Comparatively, the results for the neutral option of “I neither agree nor disagree” are of interest with 51 percent of all respondents being unwilling or unable to declare a position in response to the items concerning economic sustainability compared to 30 percent for the environmental and 28 percent for the social dimensions. Further, slightly fewer respondents chose to commit to agreeing somewhat, and only 34 percent agreed strongly with the economic sustainability statements compared to 59 percent and 60 percent for environmental and social sustainability respectively.
These results may provide an explanation for the lower recorded scores for economic sustainability. That so many more chose not to provide an opinion, when combined with the lower numbers agreeing and even fewer respondents agreeing strongly, may well suggest that rather than more of the respondents disagreeing with the statements; in fact that they were comparatively unaware of or unfamiliar with the dimension of economic sustainability. It is beyond the capabilities of the data collected to answer this question definitively. However, it would be apposite to conduct future studies in order to test this hypothesis. If it were supported, then the answer to the first research question would need to reflect this by stating that consumers are not as aware of economic sustainability as they are with the other dimensions. This is discussed further in the following future research opportunities section.

**Assessing the research questions**

*First Research Question: “What does sustainability mean to consumers?”*

It can be reasonably assumed that lay people find it as difficult to frame a definition of sustainability as the academic and business communities. Therefore the first stage in this study was to gain an understanding of the participants’ cognitive engagement with sustainability.

<table>
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<th>Table 3-2 Responses to cognitive items</th>
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<td>Environmental</td>
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<td>Social</td>
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<tr>
<td>Economic</td>
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</table>

The responses to the cognitive items indicate that the respondents generally understood that sustainability had both an environmental and a social dimension with both results being higher than the mean for all cognitive items. Responses to the economic items resulted in a mean of 3.64, which falls between “I neither agree nor disagree” and ‘I agree somewhat’ on the item scales, suggesting that the respondents were not confident that sustainability has an economic
dimension. These results indicate that the respondents generally agreed or agreed strongly that sustainability has both environmental and social dimensions, however there was apparent uncertainty about the economic dimension which is something that warrants further analysis and will be discussed in the further research opportunities section of this study.

**Answer to the first research question:**

It is apparent that consumers generally understand that operating sustainably requires both environmentally and socially responsible behaviour; however there is some uncertainty as to the need and purpose of economic sustainability. Despite this, there is some awareness that sustainability is something that is good for business and has economic benefits for all stakeholders.

**Second Research question: “How do consumers feel about sustainability?”**

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<th>N</th>
<th>Range</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Environmental</td>
<td>162</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>Social</td>
<td>161</td>
<td>3.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Economic</td>
<td>164</td>
<td>4</td>
<td>3.7</td>
</tr>
</tbody>
</table>

The results for this, the affective component, were comparable to those recorded for the previous cognitive component with overall positive feelings towards social and environmental sustainability, revealing that an affective-cognitive consistency is evident in the response patterns (Chaiken & Baldwin, 1981 Millar & Tesser, 1986; Moorman, 1993; Norman, 1975). While the mean score for both of these dimensions was similar, it is of interest that the mean range is 3.3 for social and 4 for environmental. This would suggest that while the overall sentiments are similar, there is a greater strength of feeling in favour of social sustainability as supported by Creyer (1997) and Davis (2012). As was evident with the cognitive component,
the respondents demonstrated that they were less sure of their feelings pertaining to the 
economic dimension than they were to the environmental and social dimensions.

**Answer to the second research question:**

Overall, New Zealand consumers display feelings that are positive and supportive of both the 
need for sustainability and for those businesses that choose to engage in sustainable business 
processes. While they express positive and supportive feelings towards both social and 
environmental sustainability, there is a slightly more positive overall response apparent in 
regards to social sustainability. Although their affective responses towards economic 
sustainability were more likely to be positive than negative, more people could not elucidate a 
position than with either environmental or social sustainability.

**Third Research Question: “Does sustainability influence consumer behaviour?”**

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<th>Range</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Environmental</td>
<td>166</td>
<td>4</td>
<td>3.92</td>
</tr>
<tr>
<td>Social</td>
<td>161</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Economic</td>
<td>164</td>
<td>4</td>
<td>3.5</td>
</tr>
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</table>

The pattern of support for the cognitive and affective components of sustainability is continued 
with the behavioural, with the respondents generally asserting that they agree with and support 
socially and environmentally responsible conduct by themselves and by the businesses they 
support. Similarly to the results from the cognitive and affective components, there is a low 
level of commitment to engaging in or supporting economically sustainable behaviour.

**Answer to the third research question:**

The responses from the sample indicate that the way they choose to behave and the extent that 
they demonstrate support for sustainably operated businesses is in line with their understanding 
and feelings towards sustainability. Overall, consumers much prefer to support businesses
operating sustainably and to personally act in an environmentally and socially responsible manner.

**Summary of results**

In its goal of gaining an understanding of consumer attitudes towards sustainability, this study was able to determine that those consumers represented by the sample are cognisant of the fact that sustainability has both environmental and social dimensions; an awareness that is reflected in positive feelings towards and a desire to engage in those environmentally socially responsible behaviours connected with sustainability. This has therefore been able to contribute to gaining an understanding of consumer response to sustainability, a limitation that has been discussed previously in the literature review. However, the sample’s responses indicated that they had limited understanding of economic sustainability which in turn was mirrored by ambivalence towards the dimension and its relevant behaviours.

This is a valuable outcome. Because sustainability is a holistic concept, the needs of all three dimensions must be fulfilled in order for businesses to operate sustainably. In the same way that it is important for consumers to recognise and in turn respond to environmentally or socially sustainable behaviour, they need to be able to identify when organisations are not satisfying the requirements of being economically sustainable. This will allow consumers to assess whether the business they are seeking to satisfy their needs is in fact sustainable and therefore able to provide continuity of supply.

If there is widespread doubt or confusion held by consumers regarding what economic sustainability means and why it's important, this potentially places the ability of businesses to achieve economic sustainability at some risk. The holistic nature of sustainability means that challenges to attaining economic sustainability impact negatively on both environmental and social sustainability.
Consumers’ attitudes and responses towards sustainability are arguably a reflection of how well they understand and are familiar with the concepts involved. Therefore, in order for consumer engagement with and support for sustainability to occur, there is a need for greater awareness and understanding of all three dimensions, particularly economic sustainability, and the ways that they are interdependent.
4. CONCLUSION

Theoretical contribution

The nature and purpose of this study meant it was always going to be somewhat constrained in its capabilities, however subsequent analysis of the results derived from the data analysis and review of existing literature indicated that it has nonetheless been of value. As an exploratory study, there was neither the intention nor the ability to explain any aspect of consumer attitudes towards sustainability or determine why consumers act or behave the way they do towards sustainability. It did however present analysis based on primary research that posited that there was a relationship between consumers’ cognitive and affective responses to the dimensions of sustainability, and that this relationship was in turn reflected in the behaviours that they supported or engaged in. It also suggested that consumers are more likely to respond positively towards the things that they understand and are familiar with, hence the greater uncertainty with the less-widely discussed dimension of economic sustainability. This is also reflected in the greater level of support for social sustainability over environmental sustainability, an outcome likely to be due to modern consumers being increasingly disconnected from the natural environment, whereas many of the factors that are influenced by social sustainability are part of their day-to-day lives.

Practical contribution

From a purely pragmatic perspective, this study has indicated that consumers are generally likely to be supportive of not just purchasing sustainably produced goods and services, but that they feel positively towards companies that demonstrate sustainable social and environmental behaviour. This has implications for reputation building for organisations and in turn hints at benefits when it comes to securing supply contracts, recruiting staff and relationships with their physical communities. The study also suggests that understanding and knowledge play a
contributory role in forming these attitudes, therefore supporting the value in education and information strategies for sustainably run businesses.

The exploratory nature of this work has also identified a number of future research opportunities; some in response to limitations of this study, but others have arisen from the observations made.

**Limitations of the research**

The purpose of this study was to learn about New Zealand consumers, however this population is large and comprised of a widely dispersed and diverse range of people. As a result, it is inherently challenging for any study, regardless of scope, to recruit a sample that is able to represent the views of all New Zealand consumers with any confidence. While this study attempted to overcome that hurdle by the sample selection strategy, the demographic profile of the respondents eventually recruited was different from that of the New Zealand population as a whole. This is problematic as there is agreement that those specific demographic characteristics that were over-represented (e.g. women, people with a higher education and people who earn more money) may be more likely to be associated with people who assert positive attitudes towards environmental and social responsibility (Diaz-Rainey & Ashton, 2011; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997; Peattie, 2001). Therefore, a major limitation of this study is that the sample canvassed did not accurately represent the population of interest.

It was also identified that the respondent’s claims regarding their behaviour are unable to be verified. While there is no reason to expect them to have deliberately selected an incorrect option, the gap between intentions and actual action taken with green behaviour is well recorded. That means the degree that the respondents claim that they engage in pro-sustainability actions may not mirror their actual behaviour.
A further limitation was identified regarding the collection of data used for assessing respondent's attitudes towards economic sustainability. When the items used were tested for internal reliability using Chronbach’s alpha, the results fell well short of what is traditionally deemed acceptable, therefore the results gained that pertain to economic sustainability are potentially less useful to this study. While identifying the specific reasons for this low alpha score falls outside the scope of this study; there is agreement that a low number of items in an instrument is likely to increase low internal reliability (De Vaus, 2002; Tavakol & Dennick, 2011). It was originally decided to use negatively worded statements to minimise response bias, however there is growing agreement that they are not effective in achieving that result and can create confusion or uncertainty in survey participants (Ebesutani et al., 2012; Hughes, 2009; Van Sonderen, Sanderman, & Coyne, 2013; Weems & Onwuegbuzie, 2001). Therefore adopting this method in the instrument design process has likely created a limitation to the results from this study.

**Future research opportunities**

A primary reason to conduct exploratory research of any form is to identify future research opportunities (Babbie, 2007; Blaikie, 2000) and this study has identified a number of areas that present opportunities for valuable and interesting research.

**Consumer understanding**

While one of the strengths of this study was the assessment of the cognitive, affective and behavioural responses to sustainability, there is considerable value likely to be gained from focussing solely on consumer knowledge and understanding of sustainability as a concept in and of itself. This would mean educators and business communication specialists would know whether consumers had the same concepts in mind when sustainability and sustainable business practices were being presented or discussed, or whether there was a need for education and/or the use of different terminology.
While this study suggested that consumers were cognisant that the pursuit of sustainability requires attention to both environmental and social issues, there was somewhat less confidence in the purpose and value of the economic dimension. It would, therefore, be of value to conduct further research on whether they are, in fact, aware of the economic dimension, and if so what they believed it to mean. As it is likely that this confusion is not confined to consumers, there would be value in extending the study beyond consumers, and to canvass the views of business owners and key decision makers. This would identify whether this confusion is confined to consumers, or is in fact something that is shared by both businesses and consumers.

The respondents to this study, who were primarily employed in a central-city location, demonstrated greater interest and commitment to social sustainability than to environmental sustainability. It is possible that this is because they would predominantly live and work in an urban environment with limited exposure to the natural environment and to the impacts of human activity on that environment. Replicating this study with a comparable organisation that employed demographically similar people, but who experienced greater interaction with the environment, such as LandCare Research or The Department of Conservation, would serve to test this theory.

Gaining of a better understanding of consumer response to economic sustainability and whether the apparent consumer preference for supporting social sustainability is a factor of the make-up of the sample in turn leads to an additional research opportunity. Achieving sustainable development is, at best, likely to be problematic unless the sustainability needs of all three dimensions of the triple bottom line are met. Therefore an appreciation of the holistic nature of sustainability is needed in order to avoid one dimension being given greater priority in the belief that sustainable operation can still be attained when the needs of only one or two dimensions are met. Having a better understanding of the ways that consumers understand and
explain each dimension and whether there are any causal relationships influencing their attitudes towards each dimension will allow the assessment of the extent that sustainability is perceived as a balanced and holistic concept.

**Consumer attitudes and behaviour**

The recognised gap between stated behavioural intentions and actual behaviour with regards to environmentally responsible actions also warrants further research. An observation of this study was that consumer responses to sustainably oriented behaviour is likely to be in accordance with their cognitive and affective positions. There would therefore be value in a study that measured the respondent’s actual behaviour in relation to their cognitive and affective responses to sustainability.

Research that is able to canvass the views of those demographic profiles that were under-represented in this study would also make a useful contribution to the discussion. This could be achieved by recruiting respondents that represented those demographic profiles that were under-represented and using the same or a substantially similar study. Alternatively, a more representative sample could be recruited and a study undertaken that focussed more on whether or not there was a relationship between demographic characteristics and attitudes towards sustainable business as a holistic concept.

**Final Comment**

This study has identified that the attitudes that are held by consumers within the demographic profiles represented by this sample regarding environmental and social sustainability are comparable in both strength and valence. There is however less certainty in the attitudes held towards economic sustainability which is likely to result from greater confusion regarding the nature and function of economic sustainability compared to the social and environmental dimensions. Nonetheless, this study supports the argument that the majority of New Zealand
consumers hold attitudes that are in favour of all three dimensions of sustainability, and therefore are likely to have preference for supporting sustainably run businesses.
5. REFERENCES


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The Sustainability Imperative. (2010).


6. Appendixes

Appendix 1. Questionnaire

Cognitive Items

Environmental

Sustainable businesses consider their impact on the natural environment.

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<tbody>
<tr>
<td>I strongly disagree</td>
<td>I disagree</td>
<td>I neither agree nor disagree</td>
<td>I agree</td>
<td>I strongly agree</td>
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Sustainable businesses use resources efficiently.

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The impact of business activity on the environment is overstated

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Social

Sustainable businesses avoid creating problems for people living nearby.

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<td>I neither agree nor disagree</td>
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A sustainable business invests in its employees’ long term development.

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<td>I disagree</td>
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A sustainable business values its suppliers and makes sure they are treated fairly.

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<td>I disagree</td>
<td>I neither agree nor disagree</td>
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Economic
The most important role of a business is to make money for its owners.

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<td>I disagree somewhat</td>
<td>I neither agree nor disagree</td>
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Sustainable businesses invest in research to find more sustainable ways to operate.

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<td>I neither agree nor disagree</td>
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Sustainable businesses are profitable businesses.

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<td>I neither agree nor disagree</td>
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Affective Items

Environmental
I’m not worried about the impact of business activity on the environment.

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<td>I disagree somewhat</td>
<td>I neither agree nor disagree</td>
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<td>I strongly agree</td>
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I am glad that sustainable businesses don’t waste resources like water or electricity.

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<td>I disagree somewhat</td>
<td>I neither agree nor disagree</td>
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<td>I strongly agree</td>
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I don’t like goods with excessive packaging because it is needless waste.

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<tbody>
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<td>I disagree somewhat</td>
<td>I neither agree nor disagree</td>
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<td>I strongly agree</td>
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</table>

Social
I feel good when sustainable businesses make the welfare of customers a priority.

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<tbody>
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<td>I disagree somewhat</td>
<td>I neither agree nor disagree</td>
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<td>I strongly agree</td>
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I like it when successful businesses reward their employees.

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I don’t care whether businesses support charities.

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**Economic**

I admire people who have become wealthy through business success.

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I don’t like it when companies make excessive profits.

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I don’t like it when businesses encourage people to buy things they don’t need.

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**Behavioural Items**

**Environmental**

I prefer to deal with companies that operate in an environmentally responsible way.

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Environmental claims on products have no impact on whether I buy them.

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When I go shopping, I look for products that don’t damage the environment.

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**Social**

I prefer to deal with businesses that support charities and organisations in my community.

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I try not to deal with businesses that have poor working conditions.

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How a business treats people has no influence on whether I support that business.

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**Economic**

When I buy something, price is more important than the ethics of the company.

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I trust companies that have been around a long time more than new companies.

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I am willing to pay more for well known brands.

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Demographic questions:

What year were you born? ___________ (prefer not to say) □

Are you: 
- Male
- Female

What is the highest level of education you have achieved?
- High school qualification
- Trade qualification
- Diploma or certificate from a technical institute or similar organisation
- Degree from a technical institute or similar organisation
- Undergraduate university degree (e.g. BA, BCom)
- Professional university degree (e.g. MD, LLB, BDS)
- Postgraduate university degree
- Other

What was your income in the last 12 months?
- $1 - $10,000
- $10,001 – $15,000
- $15,001 - $20,000
- $20,001 – 25,000
- $25,001 - $30,000
- $30,001 - $35,000
- 35,001 - $40,000
- $40,001 - $50,000
- $50,001 - $60,000
- $60,001 - $80,000
- $80,001 - $100,000
- $100,001 - plus
- Prefer not to say

Are you:
- Self employed
- Employed by someone else
- Not in paid employment
- Studying
- Retired
- Prefer not to say