

Student perceptions toward a triple bottom line approach

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ABSTRACT

This research focuses on how undergraduate students in business and non-business programs at a small Canadian university perceive the concept of a “triple bottom line” approach to doing business. Several studies deal with students’ perceptions of business ethics and corporate social responsibility; however, as of this writing no studies focus on Canadian undergraduate students and the triple-bottom line approach. The following hypotheses were investigated:

1. Business students in first-year will possess more favourable attitudes toward a triple-bottom line approach than fourth-year students;
2. Female business students will possess more favourable attitudes toward a triple-bottom line approach than male business students;
3. Non-business students will possess more favourable attitudes toward a triple-bottom line approach than business students.

The sample was comprised of 355 undergraduate students from various academic disciplines to elicit their views on the importance of environmental protection, social well-being, and profit maximization. The findings validate the study’s hypotheses and are largely consistent with previous studies. The findings also indicate that, regardless of stated preferences, attitudes, or beliefs toward the triple bottom line concept, male students, upper-year students, and business students state that they are all more likely to *behave* in a manner which ignores human well-being and environmental sustainability in favor of the pursuit of profit maximization.

Keywords: CSR; ethics; student perceptions; triple bottom line

INTRODUCTION

A triple bottom line approach to doing business implies that decision-makers will evaluate their decisions in light of social, environmental, and financial responsibilities. According to Middlebrooks, Miltenberger, Tweedy, Newman & Follman (2009), “the triple-bottom line of fiscal, social and environmental success considerably alters how organizations (and stakeholders) measure sustainable success.” The term, “triple bottom line” first gained popularity with the publication in 1997 of John Elkington’s *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. In the intervening years, many have adopted this phrase to connote the intersection between social responsibility, environmentally sustainable management, and the traditional measurement and recording of corporate financial performance. More recently, Freeman and Hasnoui (2011) looked for a consensus on what is meant by the phrase “corporate social responsibility” (CSR). They conclude that there is no clear consensus or definitive definition of CSR but use the phrase, “triple bottom line” as part of their effort to propose a more universal framework.

Empirical research on attitudes of business students to corporate social responsibility (CSR) has grown over the last decade with some notable studies such as those conducted by the Aspen Institute Center for Business Education. The institute’s 2008 *Where Will They Lead? 2008 MBA Student Attitudes About Business & Society* and the 2010 *Beyond Grey Pinstripes* provides insight into prevailing attitudes amongst graduate business students from many countries. Other notable studies include Wong, Fu Long & Elankumaran’s (2010) investigation of differences in ethical perceptions among American, Chinese and Indian business students; Lamsa, Vehkaperä, Puttonen, & Pesonen’s (2008) examination of attitudes toward CSR among Finnish graduate business students; Ritter’s (2006) study of the effectiveness of ethical training of business students; Luthar and Karri’s (2005) research on business students’ exposure to ethics education and the impact of that exposure on perceptions of ethical practices and business outcomes; Lopez, Rechner & Olsen-Buchanan’s (2005) study of the effects of business school education and personal factors such as culture and gender on ethical perceptions; Arlow’s (1991) examination of personal characteristics and students’ evaluation of business ethics and CSR; Borkowski and Ugras’ (1998) meta-analysis of empirical studies conducted between 1985 and 1994 examining the relationships between gender, age, and undergraduate major and the ethical attitudes of business students; and Okleshen and Hoyt’s (1996) comparison of ethical perspectives of business students from the U.S.A. and New Zealand.

This study builds on the earlier works of these authors, in particular that of Lamsa et al.’s (2008) work in Finland, but concentrates instead on Canadian undergraduate students’ perceptions of the triple bottom line concepts of people, planet, and profit. If a triple bottom line approach is an emerging way to integrate corporate codes of ethics with CSR activities as argued by Painter-Morland (2006), Colbert and Kurucz (2007), Middlebrooks et al. (2009), and Mabry (2011), then examining students’ attitudes toward that triple bottom line is warranted. The following hypotheses were investigated:

1. Business students in first-year will possess more favourable attitudes toward a triple-bottom line approach than fourth-year students;
2. Female business students will possess more favourable attitudes toward a triple-bottom line approach than male business students;
3. Non-business students will possess more favourable attitudes toward a triple-bottom line approach than business students.

In addition to collecting data on field of study, year of study, and gender (while asking questions about their perceptions of how a business should be conducted), respondents were also asked how they would divide \$100 between the three goals of ensuring a profit for business, ensuring the well-being of people, and maintaining the well-being of the natural environment. This final question brings to light intended behavior as the students say what they would do regardless of what they said they believed a business should do.

In the following section the literature is examined, and then research methods and analysis are presented, followed by conclusions based on findings.

EMPIRICAL STUDIES ON STUDENTS AND CSR

As of this writing, any empirical studies dealing specifically with perceptions of students toward the “triple bottom line” could not be located. However, there are several relevant studies exploring student attitudes and behaviors toward business ethics and corporate social responsibility (CSR) as well as studies investigating the importance of gender, age, and national culture and attitudes toward ethics. Lamsa et al. (2008) studied the socialization effects of business education on Finnish students’ attitudes toward CSR, arguing that “... today’s business students can be regarded as tomorrow’s corporate decision makers who will be responsible for the kinds of business practices and values that are considered good and appropriate in future society.” (p.46). This recognition that today’s business students are tomorrow’s decision makers also informs the work of Thomas (2005) who examined the theoretical framework for measuring student attitudes toward the legitimacy of environmental sustainability, Arlow (1991) who examined personal characteristics of students evaluating ethics and CSR, and the Aspen Institute (2008, 2010) whose longitudinal studies captured the attitudes toward CSR among graduate students from multiple countries.

Lamsa et al. (2008) compared their findings to that of the Aspen Institute’s 2001 study. In addition to concluding that Finnish students are predisposed to a stakeholder approach, unlike the predominantly North American students surveyed in the Aspen Institute study who adopt more of a shareholder approach, Lamsa et al. found that female students, both at the beginning and end of their business studies, “...were more in favor of the ethical, environmental, and societal responsibilities of businesses” compared to their male counterparts. (p. 55). Another important finding of Lamsa et al. was that “The experience of business school education could be seen to shape student attitudes in two ways. First, the importance of the shareholder model grew in the course of education. Second, the importance of equal-opportunity employment decreased during education.” (p. 56). This conclusion is consistent with the earlier findings of Borkowski and Ugras (1998) who determined that females appear to demonstrate more ethical attitudes/behavior than males based on their meta-analysis of 47 studies conducted between 1985 and 1994 which reported a relationship between gender and ethical behavior/attitudes. Keith, Keith, Perrault & Chin (2009) also investigate the relationship between gender and ethics in decision-making. They found that female students sought a greater match between their own personal ethics and that of a business than did male students and that male students were more willing to engage in unethical behavior.

Lamsa et al.’s (2008) found that exposure to business education increased the importance of the shareholder model (i.e., less interest in social and environmental concerns and more interest in financial concerns). This finding is inconsistent with that of Borkowski and Ugras (1998) who concluded that their meta-analysis of 20 studies had mixed results based on

undergraduate major, suggesting that a strong relationship between undergraduate major and ethical behavior could not be discerned. Elias (2004) reported that work experience was a factor in determining the students' interest in CSR, finding that those individuals with work experience placed more significance on business ethics and CSR because it affected the long-term success of a firm. Persons (2009) examined age, gender, work experience, and ethics training of students and concluded that the more ethics training a student had received, the more they valued ethics in the workplace. Luthar and Karri (2005) studied the impact of ethics training in business school curriculum and the perceptions of linkage between organizational ethical practices and business outcomes both existing and ideal. They concluded that female students had higher expectations about the ideal relationship between ethical practices and business outcomes, although there was no significant difference between females and males regarding existing practices and outcomes. Ritter (2006) found that women were more receptive to ethics training in business curricula. Lopez, Rechner & Olson-Buchanan (2005) studied the factors of business school education, intra-national culture, area of specialization within business, and gender and found these attributes to have significant effects on the area of ethics examined which included deceit, fraud, self-interest, influence dealing, and coercion. They also found that tolerance of unethical behavior decreased with formal business education. Kodolinsky, Madden, Zisk & Henkel (2009) investigate what they deem, "student predictors" of business students' attitudes toward CSR and found four: ethical relativism; materialism; spirituality; and idealism. They claim those with higher level of relativism and materialism hold negative views toward CSR while those who are idealists hold positive attitudes. Perhaps most noteworthy is their conclusion that spirituality is not a strong predictor of CSR attitudes.

Several studies have been conducted attempting to compare ethical perceptions of students from different nations. Okleshen and Hoyt (1996) contrasted business students from the U.S.A. and New Zealand with respect to ethical constructs. They concluded that there were some differences in perceptions, but perhaps the most significant finding was that females were less tolerant of unethical behavior than males in all ethical domains in both countries. Mirskehary (2009) studied potential differences in perceptions of business ethics amongst accounting students in Australia, South Asia and East Asia and concluded that no significant differences exist and that all of the students placed a high importance on business ethics. Interestingly, the author explains this finding by arguing that, because the subjects were accounting students, they placed more value on "doing the right thing" because they understood the financial risks of unethical behavior. Wong, et al. (2009) examined potential differences in ethical viewpoints between American, Chinese and Indian business students. They found little difference between the students but did find American students less critical of unethical behavior than their Asian counterparts.

RESEARCH METHOD AND ANALYSIS

Three hundred fifty-five undergraduate students pursuing bachelor's degrees in a variety of disciplines were surveyed. A summary of the characteristics of the students is provided in Table 1 (Appendix). Because the survey was conducted in first-year and fourth-year classes, the largest groups in the survey are students in those years of study. The 81 second and third-year students' responses were also included as they can provide insight into the impact of gender and program of study on perceptions of the triple bottom line, but a primary interest of this study is differences in perceptions between first and fourth-year students.

Each student was asked 27 questions as shown in the following tables to elicit the student's views on the importance of environmental protection, social well-being, and profit maximization. All questions involved the use of a five-point Likert scale. The means and standard deviations for each question are reported by student characteristic in Table 2 (Appendix). To test the hypotheses, t-tests were performed to test for a difference in mean responses to the survey questions. The results of the analysis are presented in Table 3 (Appendix).

Clear differences exist between the way male and female students report their views on the three components of the triple bottom line. In all questions related to firm profitability, male students on average displayed a significantly more positive view of profit maximization than did female students. In contrast, female students generally placed greater emphasis on the human well-being and environmental protection aspects of the triple bottom line; however, the divergence in views between male and female students on human well-being and environmental protection was not as strong as it was for profit maximization. These results are consistent with earlier studies by Lamsa et al. (2008); Keith et al. (2009); Luthar and Karri (2005); Borkowski and Ugras (1998); and Okleshen and Hoyt (1996) who have also shown that females tend to place greater emphasis on corporate social responsibility (stakeholder perspective) whereas males tend to place greater emphasis on profit maximization (shareholder perspective).

When comparing business students with non-business students, it is quite clear that business students have a strong, clear preference towards profit maximization. In all questions relating to profitability, business students on average reported a significantly more positive view of earning profit or ensuring a healthy rate of return than did non-business students. Results for perceptions of human well-being and environmental protection were somewhat mixed, however. It appears that non-business students are, on average, more predisposed to the concepts of ensuring human well-being and protecting the environment; however, for some questions the difference in mean responses was not significant. Nevertheless, the higher average reported scores on environmental protection and human well-being (more than half of which are statistically significant) leads to the conclusion that non-business students are, in general, more inclined to support environmental protection and human well-being than are business students.

Mean responses for the first-year and fourth-year students in the sample were compared to see how students' views change as they progress from the first year of their studies to the fourth year of their studies. In most cases, there is no statistically significant difference in the mean responses. In a few cases, first-year students seem to offer slightly more favorable views of environmentalism and human well-being, while for one question, fourth-year students seem to express a more favorable view of profit maximization, but the results from question to question are inconsistent. Excluding the non-business students from the sample makes no difference to that result. This finding is inconsistent with Lamsa et al. (2008) who found that greater exposure to business education increased adoption of the shareholder perspective; however, it is more consistent with Lopez et al. (2005) who found that tolerance of unethical behavior decreased with formal business education.

As shown in Table 3 (Appendix), the differences between first- and fourth-year business students in their views towards the components of the triple bottom line are still inconsistent and almost always insignificant. Therefore, it is not possible to conclude that students in general, and business students in particular, report becoming less concerned about human well-being or the environment, and becoming more favorably disposed to the importance of profit, as they progress through their studies. However, such reported scores do not necessarily reflect the true

views and behaviors of students towards the three components of the triple bottom line; rather, some students may have overstated their affinity for human well-being and/or environmental protection because it is easy to simply say that one wishes to preserve the environment or that one believes that business should promote human well-being. Some students may gain some level of personal satisfaction by claiming to care about more than just profit. This sampling flaw may have biased the results of previous studies as well, and therefore a countermeasure has been devised to more accurately ascertain the student's true perceptions toward the three elements of the triple bottom line.

In the second stage of this study, an experiment was constructed to test how accurately the students' reported attitudes toward human well-being, environmental protection, and profit maximization would actually affect their behavior. In addition to the 27 questions listed above, each student was also asked how they would divide \$100 between the three goals of ensuring a profit for business, ensuring the well-being of people, and maintaining the well-being of the natural environment. Ensuring profit was treated as the base behavior, and then how much of the \$100 each student would divert away from profit maximization and toward ensuring the well-being of humans and/or the natural environment was examined. The authors hypothesize that, regardless of a particular student's purported affinity for one or more aspects of the triple bottom line,

1. male students will still be more likely to focus on profit than female students;
2. business students will still be more likely to focus on profit than non-business students; and
3. students in upper-year classes will be more likely to focus on profit than students in lower-year classes.

First, a factor analysis was performed with varimax rotation using the data gathered from the 27 questions in the survey. Three factors which collectively explain 47.326% of the variance in responses were retained. The first factor correlates highly with questions relating to the natural environment, and so this factor is labeled ENVIRONMENTALLY CONSCIOUS. The second factor correlates highly with questions related to profitability so this factor is labeled PROFIT SEEKING. The third factor correlates moderately with questions related to human well-being and the well-being of society, so this factor is labeled SOCIALLY CONSCIOUS. The correlations with each question are presented in Table 4 (Appendix). Regression scores for each of the factors were also retained and used as a single measure of how environmentally conscious, how socially conscious, and how profit seeking a student reports himself or herself to be. This allows for controlling the degree to which a student self identifies as being environmentally conscious, socially conscious, or profit seeking when exploring how the additional factors of gender, class year, and program studied affect the student's decision on how to allocate the \$100 among the three elements of the triple bottom line.

To complete the analysis, the average dollars spent on each of the three triple bottom line areas by student characteristics were calculated to indicate the direction of the effect of each factor, as well as the correlation between dollars spent on a particular triple bottom line element and the student's self identified affinity for that element. The results are presented in Tables 5 (Appendix) and 6 (Appendix). The average dollar amounts reported fit the hypotheses, with female students, non-business students and first-year students diverting a larger portion of the \$100 towards ensuring human and environmental well-being relative to male students, business students, and fourth year students respectively. As well, students who identify as socially conscious divert more of the money towards ensuring the well-being of people and the environment while those who identify as environmentally conscious divert money towards

protecting the environment and those who identify as profit seeking are least likely to divert money away from profit maximization. However, to test comprehensively for the impact of these factors as well as any interactions between the factors, a MANCOVA was performed using money diverted towards environmental well-being and money diverted towards societal well-being as co-dependent variables; scores for self identifying as environmentally conscious, socially conscious, and profit seeking as covariates; and gender, year of study, and whether or not the student was a business student as factors. The results are presented in Table 7 (Appendix).

Not surprisingly, a student who self identifies as being environmentally conscious will divert a larger portion of the \$100 towards protecting the environment while a student who self-identifies as being socially conscious will divert a larger portion of the \$100 toward societal well-being. Interestingly though, a student who identifies as being socially conscious will also spend more to protect the environment, but the reverse is not true; a student who identifies as being environmentally conscious will not necessarily spend more money on human well-being. This result may be due to a belief among socially conscious students that a healthy natural environment is important to ensuring overall human well-being whereas ensuring social well-being by creating products to build a healthier society and paying workers fair wages does not have much to do with protecting the natural environment and so is of less concern to students who identify as environmentally conscious but not socially conscious. Again, not surprisingly, students who self identify as being profit seeking divert less money towards either environmental protection or human well-being.

As hypothesized, gender also affects the student's decision. Even if female and male students report having the same feelings and same preferences toward human well-being and environmental well-being, female students are still more likely than male students to divert money towards both human well-being and environmental well-being. However, year of study cannot be shown to have any effect on a student's preference towards any particular element of the triple bottom line. After controlling for the students' preferences towards the environment, societal well-being, profit maximization, gender, and subject studied, it cannot be demonstrated that year of study has any additional impact on the students' decision on how to divide the money. Likewise, after controlling for these factors, it cannot be shown that being a business student has any additional impact on how a student divides the money. As shown above, business students exhibited markedly different views towards profit maximization, environmental protection, and socially conscious behaviour when compared to non-business students. Such differences appeared in the factor scores, and so, once those views were controlled for, there was no additional effect of being a business student. As it cannot be demonstrated that students' views change from year to year in the program, it appears that students are simply sorting themselves based on preexisting dispositions towards the three elements of the triple bottom line, with students who are more profit driven choosing to study business while students who are more environmentally or socially conscious choose to study something else. Being female interacts with year of study and with being a business student to slightly increase the amount that the student would divert towards human well-being regardless of the stated preference for human well-being, so overall; one can conclude that, regardless of stated preferences, in their behavior, female students are more socially conscious than male students.

CONCLUSIONS

Obvious differences exist between the way male and female students report their views on the three components of the triple bottom line. In all questions related to firm profitability, male students on average displayed a significantly more positive view of profit maximization than did their female counterparts. When comparing business students with non-business students, it is quite clear that business students have a strong preference toward profit maximization. In all questions relating to profitability, business students on average reported a significantly more positive view of earning profit or ensuring a healthy rate of return than did non-business students. In a few cases, first-year students seem to offer slightly more favorable views of environmentalism and human well-being, while for one question, fourth-year students seem to express a more favorable view of profit maximization, but the results from question to question are inconsistent and so one cannot conclude that there is a divergence in views between first and fourth-year students regarding the three components of the triple bottom line.

This study's results are consistent with the studies cited earlier which find that female students are more likely to perceive CSR and ethics (Keith, et al. 2009; Lamsa et al. 2008; Luthar and Karri, 2005; and Borkowski and Ugras, 1998), or in this case a triple bottom line approach, as positive in business approaches. The hypothesis that upper year business students would be less concerned with the triple bottom line than first-year students has not been proven with this study; however, the contention that business students would be more concerned with the traditional bottom line of profit than non-business students was established by the results.

This study's most significant finding is that regardless of how students claim to perceive the importance of the triple bottom line approach, they might respond differently when asked to allocate dollar amounts to expenditures on the three aspects of the bottom line. Female students, non-business students and first-year students reported that they would divert a larger portion of \$100 on ensuring human well-being and environmental protection than male students, business students, and fourth-year students. Most importantly though, even when controlling for what a student believes a business should do, the results show that females intend to behave in a manner that is more environmentally friendly and socially conscious than their male counterparts, a result which indicates that simply asking respondents about their preferences towards CSR or triple bottom line concepts will not necessarily provide an accurate measure of how an individual will behave when actually forced to choose between the three alternatives.

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Table 1: Characteristics of the Students being surveyed	
	Number of Students
Gender	
Male	165
Female	190
Discipline	
Business	261
Non-Business	94
Class Year	
First Year	168
First Year Business Students	116
Second Year	34
Third Year	47
Fourth Year	106
Fourth Year Business Students	101



Table 2: Average Responses (Std. Dev.) to survey questions by Student Characteristics								
	Male	Female	Business	Non-Business	First Year	Fourth Year	First Year - Business Only	Fourth Year - Business Only
In your definition of “important” knowledge for business students, how important are the following? <i>On a scale of one to five, 1 = “Not Important,” 3 = “Neutral,” and 5 = “Very Important.”</i>								
Knowledge to improve peoples’ physical health	3.50 (1.069)	3.60 (1.116)	3.43 (1.088)	3.90 (1.038)	3.52 (1.105)	3.49 (1.044)	3.35 (1.121)	3.48 (1.054)
Knowledge of how to preserve natural resources	3.95 (1.047)	4.14 (0.880)	4.00 (0.979)	4.20 (0.911)	4.01 (0.957)	4.09 (0.951)	3.91 (1.001)	4.08 (0.956)
Knowledge of how to provide a return to business owners	4.41 (0.840)	4.21 (0.858)	4.47 (0.704)	3.82 (1.037)	4.21 (0.888)	4.46 (0.783)	4.45 (0.690)	4.53 (0.657)
Knowledge of actions that will not harm the natural environment	4.05 (0.964)	4.20 (0.862)	4.08 (0.906)	4.28 (0.921)	4.18 (0.891)	4.10 (0.861)	4.09 (0.919)	4.10 (0.854)
Knowledge of how to maximize profits	4.64 (0.725)	4.32 (0.839)	4.61 (0.657)	4.07 (1.019)	4.45 (0.832)	4.53 (0.693)	4.64 (0.690)	4.57 (0.606)
Knowledge of actions that can improve peoples’ mental well-being	3.93 (0.928)	4.04 (0.908)	3.43 (1.088)	3.90 (1.038)	4.07 (0.876)	3.83 (0.920)	4.01 (0.880)	3.80 (0.917)
To what extent do you agree or disagree with each of the following statements? <i>On a scale of one to five, 1 = “Strongly Disagree,” 3 = “Neutral,” and 5 = “Strongly Agree.”</i>								
Business students need to possess knowledge of strategies that can reduce air pollution	3.41 (1.136)	3.48 (0.947)	3.92 (0.903)	4.19 (0.931)	3.43 (1.047)	3.45 (0.957)	3.44 (1.024)	3.47 (0.975)
It is an employer’s responsibility to pay its employees a fair wage even if no law exists to specify a fair wage	4.19 (0.917)	4.42 (0.764)	3.45 (1.020)	3.44 (1.093)	4.45 (0.772)	4.17 (0.856)	4.47 (0.751)	4.18 (0.865)
Businesses must primarily engage in activities that lead to profit maximization	4.05 (0.942)	3.68 (0.968)	4.31 (0.851)	4.32 (0.832)	3.85 (1.009)	3.86 (0.970)	4.00 (0.969)	3.86 (0.970)
A business has no responsibility other than to its owners	2.02 (1.101)	1.62 (0.929)	3.96 (0.944)	3.55 (0.990)	1.77 (1.019)	1.87 (1.052)	1.84 (1.068)	1.87 (1.065)
All businesses must implement strategies that prevent harm to the natural environment	3.75 (1.080)	3.92 (1.066)	1.84 (1.046)	1.69 (0.984)	3.90 (1.010)	3.58 (1.202)	3.83 (0.980)	3.57 (1.211)
It is important for business students to have knowledge of practices that ensure a business can pay its costs at all times	4.25 (0.807)	4.26 (0.686)	3.76 (1.081)	4.05 (1.030)	4.27 (0.698)	4.19 (0.818)	4.38 (0.668)	4.23 (0.747)
In your definition of a “well-run” company, how important are the following? <i>On a scale of one to five, 1 = “Not Important,” 3 = “Neutral,” and 5 = “Very Important.”</i>								
Creates products that help build a healthier society	3.93 (0.914)	4.12 (0.880)	4.32 (0.720)	4.07 (0.779)	4.05 (0.828)	3.97 (0.889)	4.01 (0.829)	3.94 (0.892)
Makes an effort to protect	3.81	4.01	3.97	4.19	3.95	3.85	3.85	3.86

wildlife	(0.973)	(0.931)	(0.900)	(0.883)	(0.828)	(0.974)	(0.805)	(0.970)
Offers a return to its owners	4.19 (0.803)	4.02 (0.776)	3.85 (0.935)	4.11 (0.989)	4.05 (0.780)	4.17 (0.762)	4.15 (0.725)	4.21 (0.697)
Ensures the community in which it operates is not harmed by its activities	4.35 (0.832)	4.45 (0.717)	4.18 (0.756)	3.88 (0.853)	4.38 (0.733)	4.43 (0.676)	4.34 (0.685)	4.42 (0.682)
Constantly works to ensure the natural environment is not harmed by its activities	3.96 (0.975)	4.24 (0.869)	4.35 (0.778)	4.55 (0.742)	4.14 (0.871)	4.08 (0.880)	4.03 (0.879)	4.07 (0.875)
Always attempts to produce a profit	4.41 (0.833)	4.05 (0.907)	4.03 (0.934)	4.33 (0.885)	4.20 (0.897)	4.29 (0.780)	4.38	4.32
From an organizational perspective, to what extent do you agree or disagree with each of the following statements? <i>On a scale of one to five, 1 = "Strongly Disagree" 3 = "Neutral," and 5 = "Strongly Agree."</i>								
Preservation of the natural environment is as important as making a profit	3.46 (1.192)	3.92 (0.961)	4.33 (0.846)	3.89 (0.933)	3.66 (1.110)	3.73 (1.038)	3.49 (1.091)	3.71 (1.042)
The well-being of humanity is as important as making a profit	3.99 (1.134)	4.18 (1.018)	3.58 (1.095)	4.04 (1.036)	4.15 (1.036)	4.08 (1.021)	4.15 (0.980)	4.10 (0.985)
The well-being of humanity is as important as preservation of the natural environment	3.82 (1.043)	4.15 (0.893)	4.10 (1.043)	4.09 (1.170)	3.95 (0.978)	4.04 (0.925)	3.87 (0.947)	4.04 (0.937)
As a manager, it is important to: <i>On a scale of one to five, 1 = "Not Important," 3 = "Neutral," and 5 = "Very Important."</i>								
Work to prevent my company from causing harm to outdoor air quality	3.86 (0.981)	4.03 (0.826)	3.93 (0.972)	4.17 (0.980)	3.98 (0.840)	3.84 (0.937)	3.92 (0.815)	3.88 (0.909)
Listen to members of society (who don't work for my company) to ensure my company's actions are improving peoples' well-being	3.92 (0.804)	4.11 (0.854)	3.93 (0.867)	4.01 (1.000)	4.08 (0.807)	3.87 (0.840)	4.10 (0.817)	3.86 (0.837)
Ensure a return (money) to people who have invested money in my company	4.38 (0.711)	4.13 (0.716)	4.00 (0.839)	4.09 (0.825)	4.24 (0.778)	4.25 (0.663)	4.39 (0.629)	4.27 (0.646)
Use no more natural resources than is necessary	4.09 (0.980)	4.35 (0.820)	4.33 (0.648)	4.02 (0.867)	4.21 (0.955)	4.17 (0.856)	4.17 (0.980)	4.17 (0.849)
Ensure my company's products/services benefit society	4.09 (0.854)	4.33 (0.666)	4.21 (0.913)	4.29 (0.887)	4.26 (0.692)	4.17 (0.774)	4.27 (0.690)	4.17 (0.762)
Do my best to ensure my company makes a profit	4.53 (0.686)	4.21 (0.738)	4.20 (0.759)	4.27 (0.792)	4.35 (0.734)	4.41 (0.673)	4.46 (0.624)	4.44 (0.639)

Table 3: t-statistics from Difference of Means Tests by Student Characteristics				
	Male vs. Female	Business vs. Non-Business	First-Year vs. Fourth-Year	First-Year vs. Fourth-Year (Business Only)
In your definition of “important” knowledge for business students, how important are the following?				
Knowledge to improve peoples’ physical health	-.885	-3.704***	.203	-.821
Knowledge of how to preserve natural resources	-1.812*	-1.781*	-.746	-1.240
Knowledge of how to provide a return to business owners	2.221**	5.648***	-2.411**	-.941
Knowledge of actions that will not harm the natural environment	-1.501	-1.792*	.685	-.106
Knowledge of how to maximize profits	3.862***	4.712***	-.816	.717
Knowledge of actions that can improve peoples’ mental well-being	-1.177	-2.518**	2.123**	1.693*
To what extent do you agree or disagree with each of the following statements?				
Business students need to possess knowledge of strategies that can reduce air pollution	-.698	.127	-.193	-.188
It is an employer’s responsibility to pay its employees a fair wage even if no law exists to specify a fair wage	-2.546**	-.049	2.769***	2.697***
Businesses must primarily engage in activities that lead to profit maximization	3.581***	3.471***	-.107	1.051
A business has no responsibility other than to its owners	3.735***	1.222	-.735	-.182
All businesses must implement strategies that prevent harm to the natural environment	-1.493	-2.293**	2.278**	1.677*
It is important for business students to have knowledge of practices that ensure a business can pay its costs at all times	-.185	2.792***	.919	1.578
In your definition of a “well-run” company, how important are the following?				
Creates products that help build a healthier society	-2.033**	-2.026**	.775	.582
Makes an effort to protect wildlife	-1.961*	-2.240**	.885	-.066
Offers a return to its owners	2.054**	3.156***	-1.274	-.633
Ensures the community in which it operates is not harmed by its activities	-1.230	-2.169**	-.601	-.856
Constantly works to ensure the natural environment is not harmed by its activities	-2.845***	-2.665***	.621	-.364
Always attempts to produce a profit	3.803***	4.204***	-.906	.571
From an organizational perspective, to what extent do you agree or disagree with each of the following statements?				
Preservation of the natural environment is as important as making a profit	-3.921***	-3.544***	-.489	-1.523
The well-being of humanity is as important as making a profit	-1.619	.082	.574	.356
The well-being of humanity is as important as preservation of the natural environment	-3.220***	-2.008**	-.719	-1.317
As a manager, it is important to:				
Work to prevent my company from causing harm to outdoor air quality	-1.707*	-.767	1.222	.352
Listen to members of society (who don’t work for my company) to ensure my company’s actions are improving peoples’ well-being	-2.081**	-.885	2.117**	2.152**
Ensure a return (money) to people who have invested money in my company	3.363***	3.551***	-.117	1.391

Use no more natural resources than is necessary	-2.684***	-.737	.391	.033
Ensure my company's products/services benefit society	-2.914***	-.723	.958	1.003
Do my best to ensure my company makes a profit	4.236***	3.572***	-.685	.247
* - Significant at the 10% Level, ** - Significant at the 5% Level, *** - Significant at the 1% Level				



Table 4: Correlations between Extracted Factors and Survey Questions			
	Environmentally Conscious	Profit Seeking	Socially Conscious
Percentage of Variance in Responses Explained:	28.067	13.504	5.755
In your definition of “important” knowledge for business students, how important are the following?			
Knowledge to improve peoples’ physical health	.408	-.227	.093
Knowledge of how to preserve natural resources	.781	-.078	.046
Knowledge of how to provide a return to business owners	.050	.693	.023
Knowledge of actions that will not harm the natural environment	.833	.017	.078
Knowledge of how to maximize profits	-.082	.721	-.167
Knowledge of actions that can improve peoples’ mental well-being	.333	-.053	.215
To what extent do you agree or disagree with each of the following statements?			
Business students need to possess knowledge of strategies that can reduce air pollution	.656	.033	.168
It is an employer’s responsibility to pay its employees a fair wage even if no law exists to specify a fair wage	.058	.039	.221
Businesses must primarily engage in activities that lead to profit maximization	-.232	.530	-.149
A business has no responsibility other than to its owners	-.146	.044	-.093
All businesses must implement strategies that prevent harm to the natural environment	.662	-.013	.095
It is important for business students to have knowledge of practices that ensure a business can pay its costs at all times	.154	.581	.069
In your definition of a “well-run” company, how important are the following?			
Creates products that help build a healthier society	.151	-.141	.757
Makes an effort to protect wildlife	.577	-.097	.610
Offers a return to its owners	-.008	.648	.210
Ensures the community in which it operates is not harmed by its activities	.348	.062	.679
Constantly works to ensure the natural environment is not harmed by its activities	.682	-.044	.550
Always attempts to produce a profit	-.095	.641	.019
From an organizational perspective, to what extent do you agree or disagree with each of the following statements?			
Preservation of the natural environment is as important as making a profit	.571	-.129	.213
The well-being of humanity is as important as making a profit	.123	.019	.135
The well-being of humanity is as important as preservation of the natural environment	.421	-.045	.254
As a manager, it is important to:			
Work to prevent my company from causing harm to outdoor air quality	.597	-.011	.329
Listen to members of society (who don’t work for my company) to ensure my company’s actions are improving peoples’ well-being	.180	.011	.520
Ensure a return (money) to people who have invested money in my company	-.032	.736	-.017
Use no more natural resources than is necessary	.285	.077	.261
Ensure my company’s products/services benefit society	-.023	.157	.637
Do my best to ensure my company makes a profit	-.082	.731	-.021

	Male	Female	Business Student	Non-Business Student	First Year	Fourth Year
Ensure the well-being of people	27.1461 (14.100)	33.7324 (14.127)	29.1581 (13.315)	34.8722 (16.657)	31.7518 (13.248)	28.1065 (14.892)
Maintain the well-being of the natural environment	25.2952 (13.817)	32.5323 (13.896)	27.3979 (13.044)	34.0850 (16.430)	29.4870 (14.179)	27.1923 (12.994)
Ensure a profit for business	47.5462 (23.600)	34.0666 (18.121)	43.6773 (20.847)	31.0427 (22.098)	38.7610 (21.289)	44.8518 (22.118)



Table 6: Correlations between Self-Identified Affinities for Triple Bottom Line Elements and Spending Diverted Towards Those Elements			
	Ensure the Well-being of People	Maintain the well-being of the natural environment	Ensure a profit for business
Socially Conscious	.185	.141	-.209
Environmentally Conscious	.076	.451	-.366
Profit Seeking	-.333	-.294	.419



	Dependent Variable	Sum of Squares	df	Mean Square	F
Environmental	Ensure Human Well-being	167.057	1	167.057	.954
	Maintain environment	12422.033	1	12422.033	90.238***
Profit Seeking	Ensure Human Well-being	4793.729	1	4793.729	27.388***
	Maintain environment	3817.100	1	3817.100	27.729***
Socially Conscious	Ensure Human Well-being	1760.902	1	1760.902	10.061***
	Maintain environment	1130.399	1	1130.399	8.212***
Gender	Ensure Human Well-being	2025.244	1	2025.244	11.571***
	Maintain environment	1029.684	1	1029.684	7.480***
Year of Study	Ensure Human Well-being	688.078	3	229.359	1.310
	Maintain environment	609.199	3	203.066	1.475
Business Student	Ensure Human Well-being	187.296	1	187.296	1.070
	Maintain environment	118.010	1	118.010	.857
Gender and Year of Study	Ensure Human Well-being	1208.584	3	402.861	2.302*
	Maintain environment	451.992	3	150.664	1.094
Gender and Business Student	Ensure Human Well-being	973.170	1	973.170	5.560**
	Maintain environment	89.353	1	89.353	.649
Year of Study and Business Student	Ensure Human Well-being	308.310	3	102.770	.587
	Maintain environment	519.554	3	173.185	1.258
Gender and Year of Study and Business Student	Ensure Human Well-being	1502.639	3	500.880	2.862
	Maintain environment	381.706	3	127.235	.924

* - Significant at the 10% Level, ** - Significant at the 5% Level, *** - Significant at the 1% Level

