

The effect of teaching multiple approaches to management on students' subsequent investment decisions: Implications for Responsible Management Education

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Abstract

Responsible Management Education (RME) seeks to prepare students to address social and ecological crises via going beyond a traditional narrow understanding of shareholder wealth maximization. Past research has shown mixed results regarding the effectiveness of RME courses to change students' subsequent behavior. We examine whether taking an RME course that teaches multiple approaches to management affects students' subsequent investment decisions. We find that such students allocate less money to investments that focus only on financial returns without regard for social and ecological well-being, thereby counterbalancing our finding that greater investment knowledge is associated with allocating more money to such investments. Implications are discussed.

Keywords: Responsible Management Education, multiple approaches to management, investing, post-course effects, survey

There is widespread interest in and support for Responsible Management Education (RME) (Morsing, 2021). RME goes beyond a narrow focus on profit-maximization, and instead seeks to enhance social and ecological well-being (e.g., Moosmayer et al., 2019; Polman, 2021). Finance courses, in particular, have been slow to embrace the agenda of RME (Roller, 2021).

Unfortunately, it is unclear whether management courses designed to teach RME are effective in changing students' subsequent behaviour. This is partly due to the lack of confidence-inspiring results in the few studies that have examined the effectiveness of such courses (e.g., Parkes et al., 2017). For example, Zhang and Szerencsi's (2022) recent pre-post course study of the effect of specific RME courses on students found: a) *some increases* in

students' awareness and attitudes consistent with the agenda of RME (e.g., when asked to identify the most important factor for determining a "best company," students were more likely to identify "ethical behavior" and to mention responsible behavior); b) *no differences* in pre-post course responses to items like: "Companies whose business relies on natural resources should maximize profit before they run out of resources;" "Companies are morally obliged to do something about environmental [and social] problems;" and c) students were *less likely* to minimize waste and water consumption.

RME courses face significant challenges that may limit their impact on business students (building on Dyck & Caza, 2021; Duarte, 2010). First, self-fulfilling prophecies of shareholder wealth maximization are deeply embedded in much business theory and practice, and thus also in other courses students take in their programs of study (e.g., Ferraro et al., 2005; Ghoshal, 2005). Even students who have a passion for ecological well-being and social justice may retreat into jaded cynicism and decide that it is futile to challenge the status quo (Duarte, 2010). Second, students may react against any "superior moralizing" and "holier-than-thou" sentiment that instructors who argue for RME may exude if they "present themselves as having enlightened superiority and a greater knowledge of what is best. Doing so risks creating a new coercive orthodoxy" that students find off-putting (Dyck & Caza, 2021, p. 105; Samra-Fredericks, 2003).

This study builds on previous research on the effectiveness of RME instruction in two ways. First, in order to increase the effectiveness of RME, we reconsider the design of curriculum and course content in RME courses. In particular, we suggest that, rather than teaching a single RME approach to management, it may be more effective to offer a course that teaches multiple approaches to management. Research suggests that, compared to courses that teach only one approach to management, courses that teach multiple approaches to responsible

management result in students adopting less materialistic and less individualistic understandings of effective management, having improved critical thinking and ethical thinking, and a decreased likelihood of seeing profit-centric management as effective (Dyck & Caza, 2021; Dyck et al., 2011, 2012).

Second, our study examines whether completing an RME course that teaches multiple approaches to management has an effect on students' subsequent investment decisions. In particular, we examine whether business students who have taken such a course allocate less money into investments that solely seek to maximize profits (versus investments that seek to also enhance social and ecological well-being), regardless of whether those students take other business courses that have a traditional emphasis on shareholder-wealth maximization and investment knowledge. Our results suggest that taking the aforementioned RME course does spill over to students' investment decisions, regardless of their overall investment knowledge.

The remainder of our paper will proceed in three parts. First, we will review the literature underpinning our study, in particular regarding the merits and practicalities of teaching a course with multiple approaches to responsible management. This section will lead to two hypotheses. The second part describes our research design, methods, sample, and findings. In the final part we discuss the implications of our paper for RME.

LITERATURE REVIEW

The most appropriate way to teach RME

When considering how to design course content to deliver RME to students, it is helpful to consider what "responsible" management means. In his review of the RME literature, Hibbert (2021) suggests that it is rare to find a careful or well-developed understanding of responsible management. Building on his own work and others (Hibbert & Cunliffe, 2015, p. 178; Painter-

Morland, 2015; Pless & Maak, 2011), Hibbert (2021) draws attention to three key dimensions at the heart of responsible management. For our purposes these three dimensions can be expressed in three questions: 1) How is “well-being” understood/measured?; 2) How do managers make ethical decisions?; and 3) How are stakeholders with alternative views included?

Our study notes that there is more than “one best way” to be a responsible manager, depending on how one answers the three generic questions associated with responsible management. This is consistent with and extends Dewey’s (1984) view of pragmatism that allows for “differently constructed truths” where each approach is akin to a holistic “mental model” that managers can apply to a variety of situations (Moosmayer et al., 2019, p. 8).

Consider the three “ideal types” of management depicted in Table 1 (adapted from Dyck et al., 2018). The first type, Financial Bottom Line (FBL) management, is typically the approach that RME seeks to replace. However, even FBL management can be seen as entirely responsible within the generic three-dimensional framework of responsible management. With regard to the first dimension, an FBL perspective is consistent with Nobel laureate Milton Friedman’s (1970) argument that society is best served if businesses focus on maximizing shareholder wealth, and leave the care for social and ecological well-being to other stakeholders who have more expertise and authority (e.g., government). Responsible FBL managers follow laws of the land. With regard to the second dimension, FBL management is entirely consistent with the popular understanding of utilitarian ethics, which suggests that maximizing financial well-being is a proxy for maximizing the greatest good for the greatest number (e.g., Baujard, 2013; McKay, 2000; Ramboarisata & Gendron 2019). Finally, FBL managers seek to gain power and competitive advantage over other stakeholders (e.g., via Porter’s 5 competitive forces; Porter 1980, 1985), believing that doing so will serve overall society via an “invisible hand.” In sum,

consistent with its threefold assumptions presented in Table 1, in this way FBL management can be seen as entirely “responsible.” Recognizing that FBL management is responsible *based on the assumptions it makes* about the three dimensions of responsible management has important benefits in the classroom. Not only does this disarm defenders of FBL management, more importantly it implicitly compels students to think critically about its underlying assumptions and consider whether they personally find the FBL approach to be responsible.

- - Insert Table 1 about here - -

Another benefit of the three-fold approaches to management depicted in Table 1 is that it allows proponents of RME to develop *two* non-FBL approaches to management—i.e., TBL and SET—and thereby represents an intriguing way to address “the normative paradox of responsible management education” by “teaching a more pluralistic set of theories” (Moosmayer, et al., 2019, p. 15). Currently the RME literature contains elements of both TBL and SET management, and differentiating between them promises to help clarify the field. The RME literature has roots in TBL management that considers people, planet, and profit (e.g., Abdelgaffar, 2021; Haertle, 2021; Zhang & Szerencsi, 2022), but where profit is nevertheless often considered to be the “first among equals” (e.g., Dyck & Silvestre 2019, p. 1594; Worley & Lawler, 2010, p. 20) (first dimension of Table 1). This latter observation coincides with the understanding that TBL management is consistent with enlightened utilitarian ethics (second dimension). And these characteristics are in harmony with the idea that TBL managers collaborate with suppliers, competitors and customers to reduce negative social and ecological externalities in ways that simultaneously enhance shareholder wealth maximization (e.g., Dyck & Manchanda, 2021; Porter & Kramer, 2011; Roller, 2021; Laasch & Conoway, 2017) (third dimension).

In contrast to FBL and TBL approaches, SET management deliberately places people and planet ahead of profit (e.g., managers ensure firms remain financially viable, but do not seek to *maximize* profits) (first dimension of Table 1). This may be too radical to be considered “responsible” for some proponents of RME, whereas other RME proponents may resonate with the assumptions underpinning SET management (e.g., Moosmayer et al., 2019; Polman, 2021). Rather than utilitarian ethics, SET management is grounded in a variation of Aristotelian virtue ethics (Dyck & Manchanda, 2021) characterized by its emphasis on “enough is enough” (Moore, 2005; it is unethical to pursue profit-maximization, Leshem, 2016) (second dimension). SET managers seek to establish service-oriented collaborative relationships with stakeholders, consistent with the idea that the common good and flourishing (happiness) comes from practicing virtues in community (MacIntyre, 1981; Moore, 2005) (third dimension).

In so far as proponents of RME seek to change students’ values and attitudes (e.g., Zhang & Szerencsi, 2022), they may be well-served by teaching multiple approaches to management (e.g., Moosmayer et al., 2019). A recent study examining an Introduction to Management course that taught the three approaches to management described in Table 1 found that 65 percent of students changed their beliefs about what constitutes effective management pre-post course, twice the amount of student change that generally occurs in courses that teach only one approach that challenges FBL management (e.g., such as in traditional RME courses) (Dyck & Caza, 2021). Moreover, whereas at the start of the course the majority of the students saw FBL management as the most effective (53 percent), by the end of the course the largest support was for SET management (42 percent) (Dyck & Caza, 2021). These findings are consistent with previous research that has examined the effect of teaching multiple approaches (Dyck et al., 2011, 2012).

In sum, courses that teach *one* approach to responsible management can affect students' awareness and attitude in ways that are consistent with the goals of RME, but such courses have also been associated with the opposite-to-intended effect (e.g., Parkes et al., 2017; Zhang & Szerencsi, 2022). At the same time, research examining the outcomes of teaching *multiple* approaches to responsible management has consistently found changes in students' values and their ethical and critical thinking that are consistent with the goals of RME (e.g., Dyck et al., 2011, 2012). We are not aware of research that examines students' *subsequent* behavior after taking an RME-relevant course that teaches multiple responsible approaches to management.

Present study

The present study is designed to examine whether taking an Introduction to Management course that teaches multiple approaches to responsible management influences students' subsequent behavior. In particular, the study examines the effect having taken such a course has on how much money students subsequently invest in FBL vs TBL vs SET investment products.

Our first hypothesis is informed by the observation that “business students are still surrounded by a cultural environment, that often promotes a shareholder value based view of the firm, grounded in the cult of profit maximization” which may overwhelm and render moot the alternative content taught in RME courses (Chirieleison & Scrucca, 2017, p. 92; see also discussion of “hidden curriculum” in Høgdal et al., 2021). This may be especially true for courses in finance and economics (e.g., Ferraro et al., 2005; Moosmayer et al., 2019; Roller, 2021). Thus, we expect that the greater their investment knowledge, the greater proportion of money students will allocate to FBL (vs TBL or SET) investments.

Hypothesis 1

The greater the investment knowledge that business students have, the greater proportion of money they will allocate to FBL investments (versus TBL and SET investments).

Although we expect students' level of investment knowledge to have a positive relationship to the proportion of money they allocate to FBL investments (hypothesis 1), and although we recognize that shareholder wealth maximization assumptions in other parts of students' program of studies may overwhelm the effect of taking an RME course, nevertheless we expect that students who have taken a RME course that teaches multiple approaches to management will allocate a smaller proportion of money in FBL investments. We expect that students who have learned "differently constructed truths" about what responsible management can mean, and specifically who have been taught TBL and SET "mental models" that managers can apply to different situations (Moosmayer et al., 2019, p. 8), will apply those models/approaches even in situations that go beyond the parameters of the RME course. In particular, we expect that students who have taken such an RME course will make financial investment decisions that counter the traditional investment knowledge they acquire in other courses in their program of study. This leads to the our second hypothesis.

Hypothesis 2

Students who have taken a course that teaches multiple approaches to management—FBL, TBL and SET— will allocate a smaller proportion of money to FBL investments (versus to TBL and SET investments) compared to students who have not taken such a course.

METHOD

Sample, Procedure and Materials

Our study, based on a survey where participants are asked to allocate funds to three different investment products, involved 157 students from a mid-sized North American university enrolled in a required undergraduate Fundamentals of Marketing course, where they received credit for their participation. Drawing participants from a Marketing course -- rather than a Finance or a Management course -- helped to avoid any bias or confounding that might have occurred given our study's purpose. To confirm that participants were being attentive and

to ensure that respondents understood the difference between the three types of investments, our study included three attention checks as well as two comprehension checks. Our final sample contains the 110 students who passed all five of these checks.

Participants were informed that the study was about retail investing, with the goal of examining how people make investment decisions. They were also told that they would be asked to complete a short Investment Profile Questionnaire prior to being given a choice of investment products to invest in. Consistent with generic Investment Profile Questionnaires, participants were asked about their: 1) goals (e.g., the time horizon for their investment: “How many years do you expect to be saving before beginning to withdraw from your account?”), 2) attitude towards risk and capacity to afford to take risks (e.g., “How would you describe your attitude toward risk in financial matters?” Bauer & Smeets, 2015, p. 124), 3) investment knowledge (e.g., “How would you rate your investment knowledge?” Bauer & Smeets, 2015, p. 124), and 4) socio-demographic characteristics (e.g., Mazzoli & Marinelli, 2011).

After completing the Investor Profile Questionnaire, students were asked to imagine allocating an investment for their retirement in one or more of the following three types of investments products, and to indicate what percentage they would allocate to each:

Type A [SET] investments seek to *maximize social and ecological well-being* while remaining *adequately profitable*. An example of a Type A investment is a local hotel that is known for serving organically grown food in its restaurant, installing solar panels on its roof that create all the electrical needs for it and a neighboring daycare, and hiring and training people that face barriers to employment, even though these activities may compromise profits.

Type B [TBL] investments seek to *maximize both profits as well as social and ecological well-being*. An example of a Type B investment is a hotel chain that is known for practices that reduce energy use and air pollution that will pay for themselves over time by reducing costs and reducing the amount of sick time of employees.

Type C [FBL] investments seek to *maximize profits* while leaving it to other stakeholders (like government) to care for ecological and social well-being. An example of a Type C

investment is a hotel chain that is known for clever marketing promotions that are very effective at enhancing its image and attracting more customers.

The study closed with demographic questions, including whether respondents had completed the Management course that taught three approaches to management (FBL, TBL and SET).

RESULTS

Table 2 presents summary statistics for our sample of 110 students. Participants were 58.18% male, 47.27% white, and 20.00% had taken the Management course that teaches three approaches to management. Students rated their investment knowledge on a scale of very poor (1), poor (2), average (3), good (4), and very good (5) with an average rating of 2.94 out of 5, which approximately corresponds to a rating of “average”. Dorn and Huberman (2005) and Van Rooij et al. (2011) show that self-reported investment knowledge is a good predictor of actual investor behavior. They validate the investment knowledge survey question we use by showing a significant correlation with an objective finance quiz. On average, participants allocated 34.12% of their portfolio in FBL investments, 39.44% to TBL investments, and 26.45% to SET investments.

- - Insert Table 2 about here - -

Table 3 presents multivariate results estimated using ordinary least squares (OLS) regressions with robust standard errors. Column (1) shows that, consistent with hypothesis 1, those with higher investment knowledge tend to allocate great proportions of their portfolios to FBL investments. To ensure that differences in gender and race are not driving our results, we include these variables as controls in column (2) and find that after controlling for these characteristics, a one unit increase in investment knowledge (on the scale of 1 to 5) is on average associated with a 6.78% (t-stat=2.66) increase in the allocation to FBL investments.

- - Insert Table 3 about here - -

Columns (3) and (4) in Table 3 show that, consistent with hypothesis 2, students who have taken the course that teaches multiple approaches to management invest less in FBL investments relative to students who have not taken the course. After controlling for gender and race, we see in column (4) that those who have taken the RME course invest 0.12% (t-stat=2.20) less in FBL investments, on average.

In column (5), we show that results consistent with hypotheses 1 and 2 do not change when including all covariates in the same regression. The full model in column (5) can explain 24.5% of the variation in students' allocation to FBL investments ($R^2 = 0.245$). When removing from the full model the item indicating whether students have taken the RME course, R^2 drops to 20.7% (column (2)). And when removing from the full model the item about investment knowledge, R^2 drops to 18.3% (column (4)).

DISCUSSION

There are three key implications of our study. First, our findings show that increased investment knowledge is positively related to the proportion of funds students allocate to FBL investments (hypothesis 1). This is consistent with the idea that investment knowledge enables and encourages people to maximize their financial self-interests. Yet our findings also indicate that even students with the highest investment knowledge on average allocated less than 50% of their funds in FBL investments. This may suggest that students are looking for investment knowledge that goes beyond focussing solely on maximizing their own financial returns, and would welcome finance courses that teach from a larger RME mindset (we return to this idea).

Second, our findings show that RME in a management course can spill over into the financial investment decisions students make beyond the course. In particular, regardless of their

investment knowledge, students who had been taught multiple responsible approaches to management allocated less money to FBL (than to TBL and SET) investments (hypothesis 2). Such an outcome is consistent with the hopes of RME proponents, and goes beyond previous research.

Third, our findings suggest that proponents of RME should promote the teaching of multiple approaches to management. Such an approach has positive spillover effects beyond the course itself (hypothesis 2). In addition, it can result in a variety of outcomes consistent with the goals of RME, including reduced materialism and individualism (Dyck, 2011), increased critical and ethical thinking (Dyck et al., 2012), and greater likelihood to transform students' understanding of effective management (Dyck & Caza, 2021). Moreover, teaching multiple approaches is consistent with and promises to enhance the understanding and application of pragmatism, which has been coupled with virtue ethics, that commonly underpins the RME literature (e.g., Cullen, 2022). In particular, teaching different approaches to management applies the idea of “differently constructed truths” at a “meta” level of analysis, which may serve as a relevant and elegant way to operationalize RME in the classroom (Moosmayer et al., 2019).

Building on this, we welcome future research that examines more closely the mechanisms which help to explain the effects of learning multiple approaches to management. For example, does teaching different approaches to management allow students to develop multiple “mental models” that they can and do apply within and outside of the classroom (Moosmayer et al., 2019)? Alternatively, rather than (or perhaps in addition to) creating multiple mental models, future research might examine if teaching multiple approaches to business allows students to acquire a “meta” mental model of management. Metaphorically, just as learning a second language entails learning a new way of seeing the world, so also becoming fluent in multiple

languages allows speaker to develop a new “overarching” way to think about language generally (and individual languages specifically). Such an overarching meta mental model of management can help business students: a) mitigate the polarization evident in general society (because students see and develop a deeper understanding of consistencies among differing views); b) be better prepared for an unknown future (e.g., instead of being *trained* in one approach, students are *educated* in multiple approaches and thus more adaptable to future events); and c) acquire the tools they need to develop an approach to management that is consistent with their own values (while simultaneously being more humble and respectful of others) (Dyck, 2017).

Finally, our study is not without its limitations. For example, we measured investment decisions in a survey, not actual behavior, and thus welcome future research that examines actual behavioral outcomes in real world settings thereby increasing the generalizability of our findings. Also, we welcome future research that examines whether our findings are evident in other settings. Finally, the current study used a particular textbook, and we welcome future research using other teaching materials that lend themselves to teaching multiple approaches to see if they result in similar findings (e.g., Cunha et al., 2020; Clegg et al., 2019; Laasch & Conaway, 2017). Along the same lines, we welcome research that goes beyond management courses per se, noting that similar multi-approach curriculae can be developed for other business disciplines (e.g., finance, accounting, supply chain, and so on). For example, a TBL/FBL/SET approach to the 4 Ps of marketing has already been developed (Dyck & Manchanda, 2021). Developing similar materials for a variety of disciplines could go a long way in exposing and addressing some of the hidden curriculae in business schools (Høgdal et al., 2021), and thereby enhance RME.

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Table 1: Three “responsible” approaches to management

	Financial Bottom Line (FBL)	Triple Bottom Line (TBL)	Social and Ecological Thought (SET)
How well-being is understood/measured	Profit maximization (other stakeholders are responsible for social and ecological well-being)	People, planet, profit (profit first among equals)	People and planet ahead of profit (but “enough” profit)
Managers’ underlying moral-point-of-view	Consequential utilitarianism	Enlightened consequential utilitarianism	Virtue ethics
Dealing with different stakeholders	Competitive advantage	Collaborative advantage	Service-oriented collaborative advantage

Table 2: Summary Statistics

	Mean	Minimum	Median	Maximum	Standard Deviation	N
Portfolio allocation to FBL (%)	34.12	0.00	30.00	100.00	23.83	110
Portfolio allocation to TBL (%)	39.44	0.00	35.00	100.00	21.25	110
Portfolio allocation to SET (%)	26.45	0.00	24.00	100.00	19.80	110
Has taken (RME) management course (%)	20.00	0.00	0.00	100.00	40.18	110
Male (%)	58.18	0.00	100.00	100.00	49.55	110
White (%)	47.27	0.00	0.00	100.00	50.15	110
Investment knowledge (scale of 1 to 5)	2.94	1.00	3.00	5.00	0.96	110

Table 3: Multivariate Regression Results Estimated Using Ordinary Least Squares and Robust Standard Errors

	(1)	(2)	(3)	(4)	(5)
	Portfolio allocation to FBL (%)				
Investment knowledge (scale of 1 to 5)	9.297***	6.775***			6.644**
	(4.18)	(2.66)			(2.59)
Has taken (RME) management course (%)			-0.082	-0.120**	-0.116**
			(-1.41)	(-2.20)	(-2.29)
Male (%)		0.129***		0.192***	0.144***
		(2.84)		(4.76)	(3.24)
White (%)		0.030		0.042	0.037
		(0.73)		(0.99)	(0.90)
Constant	6.820	5.263	35.750***	23.412***	6.815
	(1.04)	(0.86)	(14.26)	(6.73)	(1.08)
Observations	110	110	110	110	110
R^2	0.140	0.207	0.019	0.183	0.245

t statistics in parentheses

* $p < .1$, ** $p < .05$, *** $p < .01$