Embedding Sustainability into Practice:  
Redesigning Management Accounting Curriculum in Higher Education

by

Deborah Laura Rasnick, C.G.A.

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We accept the thesis as conforming to the required standard

Marilyn Hamilton Ph.D., C.G.A., C.S.P., Thesis Supervisor  Date
Royal Roads University

Jo Axe, Ph.D., C.G.A., Committee Member  Date
Royal Roads University

Wendy Schissel, Ph.D. Program Head  Date
Office of Interdisciplinary Studies

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Abstract

This study explores how higher education can enable the management accounting curriculum to include sustainability content and learning outcomes to encourage future accountants and leaders to use such information in organizational decision-making. It examines current systems thinking theories, and studies how the leverage points available through the management accounting function may assist organizations to embed sustainability into daily practice. To support this transformation, the research reviews the knowledge-base, activities, and tools of management accounting and suggests how to incorporate sustainability principles and criteria into the curriculum within a community college in British Columbia (BC) that has established sustainability as a strategic goal. Action research interviews explore how the management accounting curriculum within the school of business could be enhanced to support organizations – and by extension society – in embedding sustainability into practice, and identifies recommendations for curriculum re-design at the department level, and key elements of change-making to enable it.

Keywords: Higher education curriculum, embedding sustainability, management accounting, sustainability accounting, systems alignment
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Acknowledgements

Sometimes as you move through the world of your life, you come to this place that troubles you. Within this place, questions come out of nowhere, but begin to lead you everywhere – to places you couldn’t imagine based on what you used to be. This place that you have found confounds you and requests that you stop whatever it is that you were becoming to become something else. This place asks many questions of you, questions that change your life, questions that have patiently waited, questions that will not go away (Whyte, 2003).

My academic journey began with such questions. My experience has been in the world of business, and a professional education that taught me to consider financial values in decisions. Yet, to me, value is so much broader – it is our natural environment, the air we breathe, a healthy family and friends, a respectful workplace, and a supportive community. With these thoughts and through my experiences I began to step back from the models I had learned and question them, question their consistency with my own values. These questions led me to educate myself so that in my mind I could recognize the value from those important things in life. I am thankful to have found a program to help me become the person I knew I had to be.

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Chapter One – Introduction

David Suzuki describes sustainability as society living within the earth’s limits, where people do not pollute the water, air and climate; energy and transportation do not require vast amounts of fossil fuels; and, natural and non-renewable resources are not wasted (Boyd, 2004). To ensure future generations have the same opportunities that we have enjoyed, Suzuki posits that we must include the social and environmental costs of our actions in our decision-making, and focus on creating genuine wealth, such as human well-being and a healthy environment.

Background

What is sustainability? The terms sustainability and sustainable development (SD) are often used inter-changeably and carry many meanings. One of the most recognized definitions was provided by the World Commission on Environment and Development (1987), which defined SD as development that “meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 8). Dale (2001) regards SD as a process of reconciling three imperatives: the ecological or environmental imperative to live within global biophysical carrying capacity and maintain biodiversity; the social imperative to ensure democratic governance systems reflecting people’s values; and, the economic imperative to ensure basic needs are met worldwide along with provision of equitable access to resources. Hopwood, Unerman, and Fries (2010) suggest the three imperatives are equally necessary because

- Economic sustainability provides us with future income and resources.
- Environmental sustainability provides a stable ecosphere that supports and protects life, including the provision of food and water.
Social sustainability provides well-functioning societies that protect and enhance quality of life and safeguard human rights. (p. 4)

**Rationale for action.** McDonough (1993) asserts that humanity is on the brink of a global industrial transformation, catalyzed by a growing awareness of the need to evolve our economic production and consumption systems toward a design that works with nature, rather than against it. Folke, Holling, and Perrings (1996) corroborate this position, articulating that “whether we like it or not the growing human impact on the planet is a fact” (p. 1019). Human influences at scales from the local ecosystem to the planet as a whole are extensive and pervasive. The connections linking one ecosystem to the next are intensifying across all scales of space and time. Local influences on air, land, and water slowly accumulate and trigger sudden abrupt changes when thresholds are reached, directly affecting the vitality of both ecosystem and humanity. One need only look to recent financial crises to see our connectedness and the sudden world-wide collapse that occurred seemingly overnight (Henderson, 2011).

To avoid such crisis, Folke et al. (1996) argue that it is critical to create incentives for people and economies to act more in harmony than in conflict with ecosystem functions, conserving biodiversity to sustain the flows of ecological services that are prerequisites for economic activity. Such essential services – atmosphere management and climate stability, hydrological cycle, pollution filtering, photosynthesis, pollination, soil generation, nutrient recycling, and many others – are fundamental “factors of production” (p. 1,019), which are becoming increasingly scarce as a consequence of human activity and exponential population growth. Over the last century, human population has more than tripled to seven billion people, and it is projected to rise to 10 billion by 2050 (UNEP, 2005); greenhouse gas emissions (GHGs) and ozone depletion have increased in a similar manner (Steffen et al., 2004). Two-thirds of the
ecosystem services on which human society depends are being degraded or used in ways that cannot be sustained (Worldwatch Institute, 2006, as cited in Ferdig, 2007).

Recent phenomena illustrating the connection between ecological stability and socio-economic effects are the severe weather events in the United States (US), where in 2012 the country experienced several events ranging from super-storms along the eastern seaboard to severe drought through the Midwest. In its 2013 report to Congress, the US Government Accountability Office (USGAO) reports that “weather-related events have cost the nation tens of billions of dollars in damages over the past decade . . . in 2012, the administration requested $60.4 billion for Superstorm Sandy recovery efforts” (p. 15). In this report, the USGAO added climate change as a new high fiscal risk that the US government must take seriously, stating that:

Climate change poses risks to many environmental and economic systems—including agriculture, infrastructure, ecosystems, and human health—and presents a significant financial risk to the federal government. The United States Global Change Research Program . . . has observed that the impacts and costliness of weather disasters will increase in significance as what are considered “rare” events become more common and intense due to climate change. (p. 15) The federal government is not well positioned to address the fiscal exposure presented by climate change, and needs a government wide strategic approach with strong leadership to manage related risks. (Highlights section, para. 6)

These arguments, and many related scientific findings on the changing earth systems resulting from human activity (Steffen et al., 2004) support the position that restoring ecosystem capacity is vital for sustaining long-term human well-being. It is clear that such life-sustaining functions must be considered in our daily decisions and actions; we must embed sustainability
into organizations and society to shift our collective purpose toward more-balanced outcomes. Applying whole systems thinking would aid society in this paradigmatic transformation (Doppelt, 2010; Meadows, 2008).

**Transformation through systems thinking.** Within our complex and interconnected world, Meadows (2008) explains the importance of systems thinking for social transformation. A system is a set of elements, interconnected in such a way to produce its own unique behaviour over time. Once we see relationships between system structure and behaviour, we may begin to understand how the system works and explore ways to proactively shift it. Such leverage points are places to intervene in the system where small changes can produce large results. Meadows (2008) describes some of the strongest leverage points as changing the purpose of a system, its information flows or feedback mechanisms, and the paradigm or mindset out of which the system arises. Meadows (2008) and Roberts et al. (2002) also describe the importance of aligning systems toward common purpose to increase success in reaching an overarching vision.

**Sustainability in higher education.** In the higher education sector, the University Leaders for a Sustainable Future (ULSF) assert that society’s move to sustainability is an imperative. In the educational system, this implies shifting institutional purpose, decisions, and critical activities toward producing outcomes – learner, institutional, community, global – that are environmentally sound, socially just, and economically viable (ULSF, 2008). Specifically, ULSF emphasizes that for institutions to demonstrate significant progress toward achieving sustainability, they must implement meaningful practices supporting sustainability in seven critical areas of institutional activities, one of which is academic curriculum.

The educational sector has a significant role in fostering a sustainable future. Educational institutions nurture individuals who become our future teachers, scientists, engineers, lawyers,
businessmen, accountants, leaders, and other community members – all of whom may often pattern their personal and professional lives on values learned and observed while in higher education. These institutions offer research that articulates emerging issues to increase awareness, critical thinking, and creative problem-solving tools. Many campuses are like small cities, offering real-world application for new inquiry and practice (Calhoun & Cortese, 2005). With such inherent leverage points, higher education is a natural place to explore the potential for transformation toward sustainability. This research explores what may be the strongest and most resilient leverage point available to the higher education sector: how we cultivate our future citizens, and the norms they will create in society, through academic curriculum.

Summary of Research

This study involves examining the management accounting curriculum within the business school of a large public community college in BC that has identified sustainability as a major strategic goal; and determining ways in which this curriculum could be enhanced to purposefully support sustainability. I am curious whether, by re-designing curriculum toward achieving the common purpose of sustainability, higher education could improve the likelihood of evoking corporate sustainability, economic transformation, and social diffusion; perhaps in turn, such improvements would aid our communities toward developing a healthy, just and equitable society whose activities are ecologically regenerative and economically sufficient to provide sustainable value for the good of society, and the environment within which we live.

Research question. My research question is

*How can management accounting curriculum in higher education be enhanced to support sustainability?*

Research objectives. My research objectives are as follows:
1) Determine the existing content and learning outcomes of the management accounting curriculum within the case study institution’s school of business; and

2) Identify methods for enhancing this curriculum to proactively support and reinforce the embedding of sustainability into organizational practice. I am curious whether this curriculum may be designed to support sustainability by including sustainability principles as meaningful criteria within an organization’s management control systems, in particular, an organization’s information flows, decision-making and accountability processes.

As a background to supporting the objectives, this inquiry also explores the sustainability agenda within the context of the academic and praxis environments by reviewing the sustainability goals within the case institution’s strategic plans; the status of the broader education for sustainability movement in the higher education sector; and, existing and emergent educational programming, standards, and practice in the field of professional accounting.

System of Interest

The case study institution for this research is Camosun College (Camosun), a large public community college, located in Victoria, BC. The college was established in 1971, and serves about 20,000 learners a year across two campuses. Camosun delivers over 160 certificate, diploma, and bachelor degree programs, with educational offerings including university transfer and applied degree programs; career and trades training; upgrading and preparatory programs; and continuing education (Camosun, 2013a). In addition to academic programming, the college offers research, innovation and prototyping services for industry, and provides co-operative training programs. Camosun employs about 1,000 people, and is one of the top ten employers within its community. Eighty-seven percent of Camosun’s graduates work in the greater
Victoria region, while ninety-seven percent of graduates work within the province (Camosun, 2013a).

Camosun’s academic programming is organized within six schools, including the schools of: access and aboriginal education and community connections; arts and science; business; health and human services; sport and exercise; and, trades and technology. The college’s School of Business offers programming in the fields of accounting, finance, hospitality, human resource leadership, management, management information systems, and other areas. The School of Business has a strong connection with industry and professional associations (Camosun, 2013b). Camosun’s accounting program is recognized by all professional accounting associations in BC, and provides a significant number of transferrable courses toward professional accreditation.

**Camosun and sustainability.** Camosun has several strategic linkages to sustainability within its institutional plans and current activities, and as a signatory to broader regional or national initiatives. Sustainability is identified as one of Camosun’s four over-arching pillars within its strategic plan, *Inspiring Lives*, which include the strategic actions to “build concepts of ecological sustainability and social responsibility into programs and courses to give students what they need to make key critical decisions about their future,” and to “be a leader in environmentally sustainable practices” (Camosun, 2013c, p. 19). Sustainability concepts are also referenced in the college’s education plan, *Inspiring Learning*, which states: “our programs are responsive to individual and community needs and emerging trends, such as the demand for… social and environmental responsibility” (Camosun, 2013d, p. 10); the education plan also provides a linkage to the strategic plan by reiterating the strategy to enhance programs and courses to incorporate sustainability concepts (p. 11). Sustainability is also mentioned in Camosun’s campus plan, *Vision 2020* (Camosun, 2013a), and throughout its webpage Camosun
goes Green (Camosun, 2013e). To support the college’s goals related to environmental sustainability, Camosun established an environmental sustainability council in 2010, comprised of interested students, staff, and faculty; and, established an office for environmental sustainability in 2012. Currently, the college is developing an environmental sustainability plan to identify and implement further actions to support its sustainability goals (Camosun, 2013e).

Camosun is a signatory of the nationwide Association of Canadian Community Colleges’ (ACCC) Pan-Canadian Protocol for Sustainability (ACCC, 2012). By signing the protocol, signatories agree to “maximize their contribution to a sustainable future” (ACCC, 2012, para. 1), and undertake related actions, including “integrate the principles of sustainability within curriculum to enable students and communities to develop competencies and commitment to contribute to a sustainable future” (ACCC, 2012, para. 7). Camosun is also represented by its student groups in various regional sustainability initiatives. Examples include regional youth sustainability leadership training programs, and the goBEYOND initiative (Camosun, 2013e).

The above linkages, plans, commitments, and activities provide evidence of Camosun’s intention to strategically support a sustainable future through its inherent spheres of influence.

**Study Delimitations and Limitations**

**Delimitations.** This study is delimited to the information provided primarily by a small group of faculty who teach within a highly-defined subset curriculum within one institution of higher education. Therefore, the research is designed to respond to the research question within the specific context of the case study institution’s management accounting curriculum.

**Limitations.** This study is limited by the selected scope of the literature reviewed. As the research design is based on the five streams of literature set out in the literature review, the study is limited to the paradigm underlying those streams, which I would posit is a systems
thinking framework (Meadows, 2008). In addition, as the target curriculum is offered exclusively in a face-to-face environment, the study’s findings and conclusions will be limited to that mode of delivery.

Who I am as a Researcher

I am a professional accountant who has worked in financial and program management in the BC public sector, and taught in the disciplines of accounting and management in higher education. My most recent professional position was in the role of chief financial officer for a provincial ministry, until fall 2012, when I returned to teaching in higher education.

My professional experience in the BC government includes working with public post-secondary institutions and local governments. In addition to financial management, my experience includes planning and funding major green infrastructure projects, and the research and promotion of emerging areas such as: sustainable infrastructure, industrial ecology, green economic opportunities, creative partnerships, and alternative financing and service delivery models. Through this experience, I have noted that most public sector organizations interested in sustainability excel at creating sustainability visions and strategic plans, but often lack effectiveness in implementing sustainability into their everyday practice.

In my teaching experience, I have noted that higher education’s business school curricula often provides little content related to considerations – such as sustainability – that may not be easily quantified into monetary terms, even when these elements are considered highly relevant to the specific decision at hand or broader organizational goals. In addition, the boundary of consideration within our business curricula often remains limited to the organizational level, even where an organization’s activities may cause adverse financial or other impacts to external stakeholders. I have been perplexed that our management decision tools often treat such relevant
information as invisible, excluding it from decision models through simplified assumptions. Like Meadows (2008), I have contemplated how organizational decision-makers can adequately respond to relevant information if it is not provided to them? However, with business curricula often examining – and thus focusing learner awareness – almost exclusively on quantifiable elements limited to the boundary of the organization it may come as little surprise that learners may not bring such broader considerations into their professional careers, for even if they have awareness and interest, they may not have sufficient tools and capacity to effectively do so.

These experiences, expanded knowledge, and increased awareness of the role that higher education has in cultivating tomorrow’s leaders, are driving my research interests. I believe that even small incremental improvements toward implementation will provide advancement for society in the quest toward embedding sustainability. As Meadows (2008) asserts, small interventions in a system can create significant change if applied to the right leverage points! And where better than higher education to incubate the evolution of processes, practices, and knowledge-building that can set society on a more sustainable path (Calhoun & Cortese, 2005)?

**Conclusion**

This introductory chapter provides a description of the research topic of embedding sustainability into accounting curriculum, identifies the rationale for taking action, and describes the research question and objectives for exploring a potential method for addressing the imperative. I identified the case study institution and its target curriculum for transformative change and the study’s delimitations and limitations. Finally, I summarized the views and experiences of me as researcher to provide context to this inquiry and the commencement of the literature review.
Chapter Two – Literature Review

To respond to the research question, “How can management accounting curriculum in higher education be enhanced to support sustainability?” I explore five key themes:

- Sustainability – what it is, why it’s important, and why now;
- Systems thinking and organizations as complex systems;
- The role of organizations in embedding sustainability;
- The accounting function within organizations and sustainability; and,
- Sustainability in higher education curriculum.

Sustainability – What it is, Why it’s Important, and Why Now?

The theme of sustainability was introduced in the previous chapter, and will be woven throughout this paper. In the introduction, the term is described, and examples are provided from literature related to the inter-connected rationale for taking immediate action. A further consideration is what sustainability may look like from micro to macro perspectives.

Multiple perspectives of sustainability. Ferdig (2007) describes sustainability from the perspective of individuals, and the choices we make to build the kind of world we want to live in – a world we want our children and grandchildren to inherit. She suggests that each of us may support a more-sustainable future through our daily decisions and actions. By becoming aware of our choices and behaviours and how they influence the intricate balance of social, ecological, and economic systems, we may take actions that result in more-balanced and restorative outcomes to conserve the earth’s resources and our social structures for future generations.

UNESCO (2004) describes sustainability from the perspective of community, stating that a sustainable community continues to thrive from generation to generation because it has...
• A healthy and diverse ecological system that continually performs life sustaining functions and provides other resources for humans and other species;

• A social foundation that provides for the health of all community members, respects cultural diversity, is equitable in its actions, and considers the needs of future generations; and,

• A healthy and diverse economy that adapts to change, provides long-term security to residents, and recognizes social and ecological limits. (p. 7)

Sustainability may also be described from the economic perspective, or economic system design. Daly (2005) describes a sustainable economy as “one that can be maintained indefinitely into the future in the face of biophysical limits… the main idea behind sustainability is to shift the path of progress from growth… toward development” (pp. 2-3). Hawken (1993) asserts that to create a sustainable society we need to design a system of commerce and production where every activity is inherently sustainable and restorative, and where institutional entities are adaptive, working in synergy with ecosystem functions rather than against them:

We need to imagine – and then design – a system of commerce where . . . doing good is like falling off a log, where the natural, everyday acts of work and life accumulate into a better world as a matter of course . . . There must be an integration of economic, biologic, and human systems in order to create a sustainable and interdependent method of commerce that supports and furthers our existence. (p. 423).

Hawken (1993) suggests that a system of sustainable commerce would involve eight objectives, including elements such as reducing the consumption of energy and materials, using natural income rather than depleting natural capital, restoring habitats and ecosystems to their fullest biological capacity, and providing stable, meaningful, and engaging employment.
Systems Thinking and Organizations as Complex Systems

Sustainability concepts and methods for diffusing such principles into the everyday activities of business and society are strongly grounded in the theories of systems thinking and organizations as complex systems (Dale, 2001; Doppelt, 2010; Ferdig, 2007; Senge, 2006).

**Systems thinking – a foundation of sustainability.** Systems thinking is a body of theory that emerged simultaneously in several disciplines during the first half of the 20th century. Pioneered by biologists, and enriched by the fields of psychology, ecology, and quantum physics, systems thinking expanded in the latter half of the century to the more-applied fields of engineering, neuroscience, and social science; and, most recently, to the fields of military strategy, management, and organization development (Capra, 1996). Systems thinking is purported to enable researchers and practitioners to better understand - and work with - complex, nonlinear, human, and environmental systems (Senge, 2006). It is a new way of thinking, in terms of connectedness, relationships, and context (Capra, 1996).

Ackoff (1999) describes a system as a whole consisting of two or more parts, which cannot be divided into its independent parts without loss of its essential properties or functions. Similarly, Meadows (2008) describes a system as a set of interconnected elements producing its own unique behaviour over time. Meadows defines elements as the components within the system that may be seen; interconnections refer to how the elements relate or work with one another – including how information flows amongst them – providing feedback; and behaviour as that which explicitly demonstrates the underlying or inherent purpose of the system. Meadows (2008) posits that once the relationships and behaviour of a system are understood, it is possible to work with it to find places for proactive change. Such leverage points are places within the system where small interventions may produce large results. Changing the purpose of
a system is identified by Meadows as one of the strongest leverage points: “a change in purpose changes a system profoundly” (p. 17). A change in relationships, including *flows of information*, or *feedback mechanisms* between elements are also strong points to intervene. However, Meadows asserts that the strongest leverage point for system change involves the transformation of the system’s paradigm: “the mind-set out of which the system – including its goals, structure, rules . . . – arises” (p. 162); “paradigms are the sources of systems” (p. 163). In addition, systems often contain *nested*, or related, subsystems and may form a part of a larger, super-system. Meadows (2008) and Robert et al. (2002) describe the importance of *aligning* such systems toward common purpose – if related systems work toward common purpose the vision of the overarching system has greater probability for success.

**Organizations as complex systems.** *Organizations* may be described as complex, self-organizing systems (Ackoff, 1999; Doppelt, 2010; Senge, 2006; Starik & Rands, 1995). The purpose of an organizational system is often articulated through its vision, mission, values, goals, and strategies (Doppelt, 2010; International Federation of Accountants [IFAC], 2011a; Willard, 2009). Organizations contain many nested subsystems in the form of internal structures and processes. Organizational *departments* are sub-systems of people, information, equipment, and processes that interact together to achieve the entity’s unique purpose of delivering programs, products, or services. Organizational *functions* such as accounting, purchasing, research and development, manufacturing, and others, may also be described as sub-systems. The *whole* of the organization – created through the synergies of the collective activities of these various *parts* – cannot be replicated by a single department or function. The collective interactions shape organizational performance (Doppelt, 2010). If these elements work toward common purpose, the organization may flourish in achieving its pre-defined strategies and objectives. If the
departments or functions work in isolation, or to benefit their particular sub-system, dysfunction may occur and the holistic system may falter (Meadows, 2008). Doppelt (2010) asserts that few people consider organizations in this systemic manner, and argues we must consider organizations in this light to understand how they function, why they produce suboptimal outcomes, and how to overcome such issues.

The Role of Organizations in Embedding Sustainability

Our world is shaped by the collective mindsets and actions of people and the interdependent networks of businesses, governments, and other institutions that affect them (Brown, 2006; Senge, Smith, Kruschwitz, Laur, & Schley, 2008). These organizations profoundly influence human production and consumption systems – including food, energy, water, resource extraction, manufacturing, transportation, waste, and others – which not only affect today’s society and the environment within which we live, but also lock-in the systematic affects from today’s decisions into the long-run, affecting future generations of people, ecosystems, and the earth systems that all life depends upon (Boyd, 2004; Dale, 2001; McDonough, 1993). “For-profit business is arguably the most influential institution in society today” (Senge et al., 2008, p. 102). Business organizations are key contributors to economic, environmental, and social well-being. As corporate activities pervade the present and are likely to be critical in the future, it is vital for business organizations to embed sustainability as a corporate priority (Bertels, Papania, & Papania, 2010; Schaltegger, Bennett, & Burritt, 2006; Senge et al., 2008; Willard, 2009).

Sustainability is considered to be an emerging megatrend by business and academic thought leaders (KPMG International, 2012; Lubin & Esty, 2010; Nidumolu, Prahalad, & Rangaswami, 2009; Willard, 2009). Lubin and Esty (2010) assert that business megatrends emerge from, or may be accelerated by, shifts in social realities that define the marketplace, by
threats of resource scarcity, or through financial crisis. Such megatrends force fundamental changes in how companies compete: “Most executives know that how they respond to the challenge of sustainability will profoundly affect the competitiveness – and perhaps even the survival – of their organizations” (p. 44). Business megatrends, like sustainability, present “inescapable strategic imperatives for corporate leaders . . . [and] require businesses to adapt and innovate or be swept aside” (p. 44). To remain viable, strategic organizations would:

Lift your eyes to the changing global context . . . [and] see this as an opportunity – an opportunity for imagination and innovation in how we might evolve business models . . . so that they continue to be fit for purpose in this new economic era . . . to design a system that reflects the true economic reality of the way organizations generate value. (HRH, The Prince of Wales, 2012, para. 7-8)

For organizations to balance their social, environmental, and financial risks, obligations and opportunities, sustainability must move toward becoming the new business as usual (Bertels et al., 2010; Lubin & Esty, 2010; Willard, 2009). Nidumolu et al. (2009) note that sustainability “isn’t the burden on bottom lines that many executives believe it to be” (p. 58). Embedding sustainability into an organization’s strategy and practices is increasingly driving sustainable value for organizations by offering long-run benefits such as: reducing operational costs and risks, driving operational efficiencies, increasing reputation and brand, attracting and retaining customers, building competitive advantage through product and service innovation, attracting and motivating staff, future-proofing a company’s access to capital markets and insurance services, and maintaining an organization’s social license to operate (Hopwood et al., 2010; IFAC, 2011a; KPMG International, 2012; Lubin & Esty, 2010; McEwen & Schmidt, 2007; Nidumolu et al., 2009; Willard, 2009). Sustainable businesses are resilient and create strong
communities, healthy ecosystems and economic value. Sustainable businesses survive over the long term because they are intimately connected to healthy social, environmental and economic systems (Bertels et al., 2010; Senge et al., 2008; Willard, 2009).

But how does an organization transform itself to become a sustainable enterprise? Bopp and Bopp (2006) define *transformation* as “the dissolution and reorganization of the constituent elements of any system around a new organizing principle, a new pattern of life” (p. 42). Building on this definition and other literature, I have noted elsewhere (D. L. Rasnick, personal communication, July 4, 2012) that sustainability transformation involves shifting organizational *purpose* to become centered around achieving sustainability outcomes in what the organization does – its core business functions – and in how it does it, by using systems thinking to redesign its organizational socio-administrative systems to be aligned with this new strategic purpose.

**Aligning organizational systems.** Contemporary management theory applies a systems alignment framework through its activities of management control. Anthony and Govindarajan (2003) define *management control* as the process by which managers influence other members of the organization to implement the organization’s strategies. Management control systems (MCS) are tools to aid management in steering an organization toward its strategic objectives. MCS generally include internal frameworks to plan, implement, monitor, and improve on operational activities of an organization to align with organizational strategies. As Widener (2007) describes, their purpose is to provide information useful in decision-making, planning, and evaluation. Thus, MCS may be considered as components of strategy *implementation*, and may be equally employed to support existing and emergent strategies (Anthony & Govindarajan, 2003). Empirical research asserts that an organization’s likelihood of success in achieving objectives and purpose is improved if their MCS are *aligned* with organizational strategy.
(Anthony & Govindarajan, 2003; Govindarajan, 1988; Kaplan & Norton, 2005; Porter, 1996; Widener, 2007); thus, where these systems fit the organization’s strategy (Anthony & Govindarajan, 2003; Porter, 1996). MCS include elements such as strategic plans, budgets, performance measurement and reward systems, decision support tools such as business case models and procurement strategies, and accounting, tracking, and reporting systems. Appendix A provides an illustrative construct of MCS useful to support organizational strategy.

**Applications to sustainability.** For transformative initiatives – like sustainability – to become an enduring part of organizations, current management theory and praxis-based research suggests that it must be embedded into the social and administrative fabric of organizational activity (Bertels et al., 2010; Doody; 2010; Doppelt, 2010; IFAC, 2011a; Willard, 2009). According to thought leaders, this involves applying the concurrent themes of leadership, such as motivating employees and building organizational culture (Doppelt, 2010; McEwen & Schmidt, 2007; Watkins & Mohr, 2001; Willard, 2009), coupled with the purposeful alignment of organizational policies, processes, systems, and practices with its vision and strategy (Bertels et al., 2010; Doody 2010; IFAC, 2011a; Marshall & Brown, 2003; Meadows, 2008; Porter, 1996; Schaltegger et al., 2006; Senge, 2006; Starik & Rands, 1995).

Implementation frameworks have emerged describing the importance of systems thinking and offering models for aligning internal MCS with purpose and strategy to embed sustainability into organizational practice (Bertels et al., 2010; Doody 2010; Doppelt, 2010; IFAC, 2011a; Starik & Rands, 1995). Appendix B provides an illustration of one systemic approach (Bertels et al., 2010). Schaltegger et al. (2006) describe the benefits from aligning MCS with sustainability strategy as assisting management “to incorporate deliberative, sustainable thinking into their decision-making, planning, implementation and control activities” (p. 2). These systemic
activities, applied consistently along with leadership qualities, will work to permanently anchor sustainability into standard protocols and culture (Doppelt, 2010).

**The Accounting Function within Organizations and Sustainability**

The accounting function is an integral component of an organization’s MCS (Horngren et al., 2013; IFAC, 2011a; Schaltegger et al., 2006). Leveraging the functional influence points may act to operationalize sustainability within organizations, and diffuse sustainability into society through the products or services delivered by organizations (IFAC, 2011a; Willard, 2009).

**The accounting function.** Accountants occupy vital positions in global industry and commerce (Association of Chartered Certified Accountants [ACCA], 2002; IFAC, 2011b). Accountants have many fields of expertise, from financial to management accounting and other specialized areas such as taxation, audit, systems, finance, and comptrollership. Accountants work in public practice and large and small organizations in a wide array of profit and non-profit oriented sectors ranging from industry, government, co-operatives, charities, and other non-government agencies. They provide essential financial, assurance, and advisory services to a broad range of stakeholders (ACCA, 2002; IFAC, 2011b). Accounting professionals touch almost everyone in society. Most professional accounting associations are long-established and have strict codes of conduct and ethical standards required of their members and students. Objectivity, trust, and fiduciary duty to the public are essential attributes for accounting professionals (ACCA, 2002; Horngren et al., 2013; IFAC, 2011b; Martin & Steele, 2010).

The accounting function is often characterized into two main fields: financial accounting and management accounting (Horngren et al., 2013). While the fields share a common purpose, that is, to provide information that is useful to decision makers, the fields differ in terms of
intended purpose, focus, and audience for information; the information’s content, its flexibility and constraints; the skillsets, tools, and practices in use by professionals based on their educational focus and normative frameworks (EPA, 1995; IFAC, 2011a; Horngren et al., 2013); and, the behavioural implications of their work, which this researcher identifies as the spheres of influence – or influence points – inherently available to each field (Meadows, 2008).

**Financial accounting.** Financial accounting focuses on reporting to external parties, such as investors, suppliers, lenders, and government agencies (Horngren et al., 2013). Because of this external focus, to users who do not have access – or privilege – to organizational information, financial accounting is governed by generally accepted accounting principles (GAAP), or standards, within most jurisdictions. These standards identify acceptable methods for measuring and reporting financial information, with the goal to present fairly in all material respects the economic substance of an entity during a specified time period (Horngren et al., 2013; IFAC, 2011a). Financial accounting is backward looking as it reports the economic substance of business activities that occurred over a prior period, or point, of time. Reliability, comparability, and faithful representation of information are key characteristics to provide information that is considered useful for external decision-makers (Horngren et al., 2013).

**Management accounting.** Management accounting focuses on internal parties within an organization, such as management and other internal stakeholders (Horngren et al., 2013). Management accounting supports an organization's forward-looking management decisions, with the goal of fulfilling the organization's strategic objectives. Management accounting measures, analyzes, and reports both financial and non-financial information and will incorporate information considered relevant for specific purposes or varying scenarios (Doody, 2010; Horngren et al., 2013). It may be highly summarized or detailed, and its timeframe may range
from hourly to life cycle analysis. Measures and reports do not need to follow GAAP, because the information is used for internal decision-making purposes. Management accounting utilizes flexible, yet rigorous, decision-support models, tools, and practices to meet the needs of internal decision-makers and managers (Doody, 2010; IFAC, 2011a). The management accounting function supports all aspects of the management cycle of plan-do-check-act made popular by W. Edwards Deming, including the function’s activities of: supporting strategy development and implementation/measurement frameworks, planning and budgeting, information and data capture, decision support and investment appraisal (e.g. products, services, projects, initiatives, or capital asset acquisition), costing and pricing, internal accounting and allocation of costs, forecasts and modeling, performance management, and internal reporting, evaluation, and accountability (Doody, 2010; Hopwood et al., 2010; IFAC, 2011a). The management accounting function is an integral system supporting the information flows, decision making, and accountability within organizations – fulfilling a pivotal role that, if properly aligned, may support the achievement of organizational strategies and objectives (ACCA, 2002; Doody, 2010; Hopwood et al., 2010; IFAC, 2011a; Schaltegger et al., 2006).

The functions of financial and management accounting may be complimentary and reinforcing systems within an organization. Where relevant, management accounting activities may provide foundational data and information, which is then adjusted for financial accounting and reporting purposes. The complimentary functions may drive consistency and momentum in organization actions, and supportive behavior from internal and external decision-makers (Doody, 2010; Hopwood et al., 2010; IFAC, 2011a).

**Embedding sustainability through the accounting function.** Accountants are regarded as a profession with the potential to immediately impact sustainability initiatives
(Martin & Steele, 2010; von der Heidt & Lamberton, 2011). Martin and Steele (2010) assert that for sustainability to permeate organizational strategy, operations, decision-making and the allocation of resources, the accounting profession needs to understand the range of relevant considerations and develop further practices and tools that can account for sustainability impacts. Hopwood et al. (2010) assert that the accounting function can improve sustainability considerations at the organization level by building capacity to do the following:

- help organizations to identify their past and potential future environmental and social impacts and benefits, in addition to . . . financial outcomes from their activities;

- provide forward-looking information to help organizations both formulate and implement strategic solutions to strengthen business performance and respond to the challenges of sustainability;

- support risk management through the identification and analysis of, and response to, sustainability-related risks and opportunities; and,

- [account for] organization’s sustainability policies, practices and impacts to a range of third parties to whom the organization is responsible and accountable. (pp. 16-17)

Hopwood et al. (2010) articulate that underlying these roles is the potential of accounting to make visible, through both quantitative and qualitative information, a broad range of financial, environment and social consequences resulting from past and potential organizational strategies and actions; and, to understand the implications of external economic, environmental and social trends on organizational viability. Raising the visibility of these consequences can help to embed issues of sustainability into an organization’s conversations and norms. This added visibility and embedding through accounting can raise the profile and status of sustainability management and impacts, both in internal management decision-making and in the external
profile of the organization. Furthermore, information about sustainability impacts and performance can help managers to incorporate deliberative, sustainable thinking into their decision-making, planning, implementation, motivational and control activities. In this context, the accounting function – which could serve the collection, analysis and communication of an organization’s sustainability information – may provide the crucial tools for management and stakeholders in moving towards sustainability (Schaltegger et al., 2006).

**What would change in management accounting to support sustainability?**

Management accounting practices and systems will differ according to the needs of the organizations they serve, and need not conform to GAAP (Doody, 2010; EPA, 1995; IFAC, 2011a). Management accounting analysis is often purpose-built, requiring a flexible approach by practitioners toward utilizing information and models considered relevant for the given scenario. The function acts to support the attainment of organizational strategies and objectives. If organizational objectives or context shifts, so too may the practices and systems utilized by management accountants to support it (Doody, 2010; IFAC, 2011a; Schaltegger et al., 2006).

Conceptually, the shift in management accounting practices and systems would involve the expansion of historical boundaries of consideration (Antheaume, 2007; Dale, 2001; Hopwood et al, 2010; Meadows, 2008), including concepts such as *what* is considered, *who* is considered, and for *when* (timeframe). In terms of what is considered, analysis would move beyond the realm of economic data to incorporate social and environmental considerations. In financial terms, one may think of this as shifting organizational purpose – or paradigm – beyond financial solvency and income generation to incorporate environmental and social solvency and income generation; thus, shifting to a regenerative system of commerce providing sustainable value (Dale 2001; Hawken, 1993; IFAC, 2011b; McDonough, 1993; Hopwood et al., 2010).
This extended view may involve collecting and analyzing expanded quantitative and qualitative data sourced from other organizational functions or external parties. Data may include material inputs or throughputs such as energy, water, and waste; social-related data such as employee or customer metrics; or global or industry benchmarks (Doody, 2010; Schaltegger et al., 2006).

In terms of who is considered, the boundary of analysis would expand beyond the organization to incorporate relevant positive and negative impacts to external stakeholders. These impacts have historically been referred to as *externalities*, which Antheaume describes as:

A phenomenon which occurs outside the market system (with which neoclassical economic theory is concerned), or *which shows up in the market system but remotely from its source* [emphasis added]. We speak of an external cost as soon as an external effect has some influence on economic agents in terms of benefit or cost, *without any market transaction taking place between those responsible for the damage and those suffering from it* [emphasis added]. (2007, p. 212).

Antheaume’s concepts, emphasized above, illustrate a foundational underpinning for the sustainability and corporate social responsibility imperatives – the notion that it is both appropriate and ethically necessary for costs to be proportionately borne by the parties responsible for causing them. A related concept that speaks to the inter-generational equity side of externalities is the time horizon under consideration – the when – where the timeframe for analysis would expand to include life-cycle based information, both within the organization and beyond it, to incorporate external implications such as packaging disposal costs and end-of-life product recapture (EPA, 1995; Schaltegger et al., 2006).

The above implications – formerly considered external to the entity and therefore not assessed or utilized by the management accounting function – would be internalized and
considered for organizational planning, decision-making, performance evaluation, and accountability purposes. Consideration of externalities allows organizations to become better informed as to which decisions are more sustainable (Doody, 2010). Without systems to account for such costs, it is unlikely that organizations will meet the future expectations of customers, investors, regulators, and broader society. (Doody, 2010; IFAC, 2011a; Schaltegger et al., 2006).

Extensive literature and guidelines are available from global accounting bodies, and non-government organizations, describing the role, actions, tools, and techniques available to management accountants to support organizational strategy to embed sustainability (in particular, see Doody, 2010; IFAC, 2011a; IFAC, 2011b). Appendix C provides a snapshot of the role and selected tools drawn from these resources (Doody, 2010; EPA, 1995; IFAC, 2011a).

In summary, the accounting function is as an integral system within organizations supporting information flows, decision making, and accountability. Because accounting information is used for decision-making, it can motivate behavior and has the potential to influence people (Horngren et al., 2013; Schaltegger et al., 2006). The accounting function has the potential to serve a critical role to aid business and society in embedding sustainability into practice (IFAC, 2011a; IFAC, 2011b). The success of embedding sustainability depends on the generation, analysis, reporting and assurance of robust financial and non-financial information. It is vital that organizational leaders and the professionals responsible for accounting and reporting understand the concepts of sustainability, and the challenges and opportunities sustainability provides toward achieving long-term value for society (Doody, 2010; Hopwood et al., 2010; IFAC, 2011a; IFAC, 2011b; von der Heidt & Lamberton, 2011). It is equally important for these individuals to envision and build the enabling systems and information required to support balanced (environmental, social, and economic) decisions and actions.
consistent with the interconnected imperatives of sustainability (Brown, 2006; Dale, 2001; Hopwood et al., 2010; von der Heidt & Lamberton, 2011).

Given the foundational skills and competencies of professional accountants, they are well-positioned to take a pivotal role in integrating sustainability within strategy and making sustainability business as usual, providing that their tools and methods are modernized to include the multi-criteria considerations of sustainability (ACCA, 2002; Doody, 2010; IFAC, 2011a; IFAC, 2011b). To embed these considerations into the standard protocols in the field of professional accounting, the curriculum in accounting education will need to evolve to incorporate sustainability concepts and applied tools for practice (ACCA, 2002; Collison, Ferguson & Stevenson, 2007; von der Heidt & Lamberton, 2011). The higher education sector has a significant opportunity to enable such transformation (AASHE, 2010; Collison et al., 2007; de la Harpe & Thomas, 2009; UNESCO, 2010; von der Heidt & Lamberton, 2011).

**Sustainability in Higher Education Curriculum**

The need to integrate sustainability into higher educational learning has been recognized in global academic literature for at least twenty years (Collison et al., 2007; de la Harpe & Thomas, 2009; Martin & Steele, 2010; von der Heidt & Lamberton, 2011). National educational policy in Canada has recognized sustainability as a critical component of lifelong learning in its Learn Canada 2020 framework, where education for sustainable development is identified as a key activity with the following objective: [to] “raise students’ awareness and encourage them to become actively engaged in working for a sustainable society” (CMEC, 2008, p. 2). Higher education bodies are accepting responsibility for leading society towards a sustainable future (AASHE, 2010; ACCC, 2012; Cortese, 2003; ULSF, 2008), and have asserted the critical need
to embed sustainability into all spheres of influence within institutions including core curriculum (AASHE, 2010; ACCC, 2012; Martin & Steele, 2010; ULSF, 2008).

The educational sector has a significant role in fostering a sustainable future (Calhoun & Cortese, 2005). Educational institutions nurture individuals who become our future citizens and leaders; they therefore have considerable influence over the direction that society takes (Calhoun & Cortese, 2005; de la Harpe & Thomas, 2009). Where colleges and universities have the largest impact to foster a sustainable future is with the students they educate; however, the real challenge rests with the ability of higher education to educate students differently (AASHE, 2011). Students of today are the decision-makers of tomorrow. However, the questions and issues that students face in the future will differ from those we experience today (UNESCO, 2010). Education to support sustainability is transformative with an aim to prepare students to become adept decision makers in an increasingly complex, dynamic, and uncertain future, and to engage and empower people to implement the systemic changes that will be needed to address this changing global context (von der Heidt & Lamberton, 2011). Educational practitioners have been called to action to re-orient curriculum to integrate sustainability to respond to the changing realities around us as well as prepare for – and contribute toward – a different future (AASHE, 2010; von der Heidt & Lamberton, 2011).

Why business and accounting schools? Business organizations are a foundation of modern society, and within business the financial function occupies an influential role (ACCA, 2002; Senge et al., 2008). Business is undergoing a major transformation necessary for the changing global context of the 21st century where sustainability is considered a key innovation (Lubin & Esty, 2010; Nidumolu et al., 2009). Businesses will require employees – including financial professionals – with the skills and capabilities to incorporate sustainability as a strategic
consideration into daily business decisions and actions (Chulian, 2011; Martin & Steele, 2010; von der Heidt & Lamberton, 2011). This shifting landscape demonstrates the importance of implementing sustainability into the curricula of business and accounting (Chulian, 2011; Martin & Steele, 2010). Key professions such as accountancy, economics, planning, and teaching are said to have the greatest and most immediate impact on sustainability outcomes (Martin & Steele, 2010; von der Heidt & Lamberton, 2011). Professional accounting associations express the importance of embedding sustainability into business practices and the role for accountants to support this strategic transformation (CA, 2013; CGA, 2013; Doody, 2010; IFAC, 2011a; IFAC, 2011b). Yet, while business school curriculum is identified as a priority for embedding sustainability in higher education courses, it has been challenging to implement for many business schools (von der Heidt & Lamberton, 2011), and despite the awareness of the need for integration of sustainability concepts in many academic circles of accounting, and the acceptance by the professional associations of the relevance of these concepts to the future of the profession, little integration has been evident in higher education (Collison, et al., 2007; Martin & Steele, 2010). There is clearly scope to develop a more sustainable curriculum for the next generation of business students, one that reimagines the role of business and its various professions – including accounting – as well as the role of business school educators (Adams, Heijltjes, Jack, Marjoribanks, & Powell, 2011; Collison, et al., 2007; Martin & Steele, 2010; von der Heidt & Lamberton, 2011). This would involve a curriculum that “espouses a strong sustainability worldview, teaching students how to make effective business decisions that are simultaneously in the best interests of customers, society, the environment, as well as the organization” (von der Heidt & Lamberton, 2011, p. 687).
**Factors in designing sustainability curriculum.** The literature identifies many factors that influence curriculum design for sustainability, including elements such as the following: transforming curriculum content and learning outcomes toward a new purpose; alternatives for course design within programs; the process of teaching including pedagogy and the role of instructors; and, the challenges and enabling conditions to support curriculum change.

**Transforming curriculum content and learning outcomes.** The topic of “what would change in management accounting practices to support sustainability” was discussed in the prior section of the literature review. This section reviews academic perspectives of embedding sustainability into curriculum, specifically accounting curriculum where applicable.

In thinking about the role that business education can play in the development of professionals who can respond to sustainability issues, Adams and her colleagues (2011) assert the pressing need to develop in future professionals the skills and values required to engage critically and in a transformative manner with the boundaries and relationships that they interact with in everyday organizational practice. However, von der Heidt & Lamberton (2011) argue that narratives of curricula often focus on the ‘what’ and ‘how’ of sustainability strategies (e.g. cleaner production, eco-efficient operations), without addressing the fundamental question: “How do we wish to live and what is the role of organizations in such living?” (p. 678). They suggest that businesses courses need to bridge disciplinary divides to sharpen the focus on the reform of business and equip the next generation of sustainability-inspired business professionals with the knowledge to create and implement world-changing ideas (von der Heidt & Lamberton, 2011). To support this transformation in business, management accounting professionals would acquire the knowledge and capacities to create the necessary accounting systems and devise new
tools and models to provide the relevant information to facilitate organizational changes to strategy and operations to achieve the new objectives (Doody, 2010; IFAC, 2011a).

In turn, accounting curriculum would evolve to enable these enhanced competencies (Schaltegger et al., 2006), and help develop the emergent thinking required to imagine and apply them (Khan, 2013). Chulian (2011) suggests that accounting studies in higher education can also help future professionals develop the ability to consider what accountants may contribute to both the interests of the organization and broader society. Gray and Collison (2002) corroborate this position, proposing that to train new generations of accountants, curriculum would address ways of improving public interest and formally embed sustainability as an objective of the accounting profession: “accounting is supposed to serve the public interest and the pursuit of sustainability is central to that public interest” (p. 797). To achieve this, accounting education would be based on intellectual development beyond traditional professional skills to build students’ awareness that future decisions they inform and make will affect various stakeholders, and to provide students with an understanding of prevailing business norms and accounting structures to critically consider how they may need to evolve (Adams et al., 2011). Thus, education would support students to consider the current worldview within which organizations operate and the values they support or impinge upon; and, in a changing global context, question those values and work to shift worldviews that may no longer be coherent in a changing future (Adams et al., 2011; Sterling, 2011; von der Heidt & Lamberton, 2011). As Gray and Collison (2002) assert, students would have “well-developed capacity for independent critical thought” (p. 799); they would be able to stand back from their current practices, analyze what’s going on, and question the validity of engrained assumptions (Adams et al., 2011). “Without the encouragement of
aspiring, independent, critical thinking (transcendence), the society will have little ability to adapt and change” (Gray and Collison, 2002, p. 808).

Course design within programs. Sustainability concepts and tools can be integrated into current business and accounting curricula either as an add-on program entirely devoted to sustainability, by integrating the subject into the various topics of existing course offerings, or by using a combination of both (von der Heidt & Lamberton, 2011). Khan (2013) suggests that it is also useful to consider specialized streams or co-streams within school programs.

A stand-alone course may enable students to explore the detailed concepts of sustainability, its principles and knowledge, and apply it to their field (Stubbs & Schapper, as cited in Sharma & Kelly, 2012). Such courses may be easier to create because sustainability is the main focus. Although stand-alone courses provide students with more detailed learning capabilities on sustainability, an unintended result may be that students see sustainability as a separate issue, disconnected from common core business or accounting subjects (Sharma & Kelly, 2012). Similarly, Stubbs and Cocklin (as cited in Sharma & Kelly, 2012) claim that students need to understand different interpretations of sustainability in relation to the context of business to avoid educational disconnection. Integrating sustainability into existing courses – both accounting and broader business programming – may provide a useful pathway for applying sustainability concepts to existing learning objectives, tools, and models (Gray & Collison; 2002; Sharma & Kelly, 2012; von der Heidt & Lamberton, 2011). Integration within a suite of related and progressive courses may allow students to develop critical thinking to analyze the coherence of new subject matter with the concepts introduced in prior course offerings; thus it leads them to consider and question the material, and synthesize it to develop useful conceptual frameworks to

**Process of teaching.** Gray and Collison (2002) and Sterling (2011) posit that it is not only important to focus on what is taught in higher education curriculum, but also the process through which learning occurs. “What is taught and over how long appears to be less important than the manner in which it is taught and the educational relationship of the teacher and student” (Gray & Collison, 2002, p. 815). Thus, the process of teaching may include considerations such as the role of the facilitator and the pedagogy employed (Mackeracher, 2004; Sterling, 2011).

**Instructor as role model.** Lawton (as cited by Sterling, 2011) suggests that “every statement that a teacher makes in a classroom is value-laden, connected with ideas about the purpose of education, probably connected with more general values and beliefs, and maybe with the purpose of life” (p.21). Sterling (2011) suggests that, whether realized or not, instructors bring with them to the classroom their individual assumptions, mindset, beliefs, and values – and that of the prevailing collective, or cultural, system within which they interact. These assumptions may develop a set of implicit values in students that according to Bebbington and Thomson (as cited in Chulian, 2011) make up a “hidden curriculum” (p. 243) given that the assumptions students acquire on what is good or bad and what is possible or impossible – although not explicitly taught – are implicit in the treatment of key subjects in the curriculum. A consequence of the implicit nature of hidden curriculum is that it may never be criticized nor may any doubt be cast on whether it is reasonable (Bebbington & Thomson, as cited in Chulian, 2011). Coupled with this concern, is the related area of assessment, where hidden curriculum may unknowingly permeate the assessment methods utilized within the learning environment (Gray and Collison, 2002). What gets emphasized and assessed will typically draw the attention
of students and form part of their knowledge-building (Chulian, 2011; von der Heidt & Lamberton, 2011). It is therefore critical for facilitators to be aware of their role and inherent influence in their relationship with students when designing and delivering transformative concepts such as sustainability, and to deeply consider how to evoke the “epistemic learning” (Sterling, 2011, p. 23) that is likely required to facilitate a sustainable future.

Pedagogy. Sterling (2011) articulates that in society there is a “growing realization that not only do current ways of thinking, perceiving and doing need to change in response to critical systemic conditions of uncertainty, complexity and unsustainability, but that old paradigms are the root of these conditions” (p. 19). He goes on to say that a process of “transformative learning” (p. 19) will be necessary to facilitate fundamental shifts in mindset and consciousness. Further he considers learning may involve and affect different levels of consciousness; that “deeper perceptions and conceptions inform, influence and help manifest more immediate ideas and they, in turn, affect more everyday thoughts and actions” (p. 21). Chulian (2011) suggests that transformative learning models involve designing learning experiences that intend to promote changes in students’ values and encourage them to question the hidden curriculum, where, both teacher and pupil explore, discover and grow in awareness together, creating interactive acquisition of knowledge. In this way, classroom activity connects the study to something specific (e.g. sustainability in accounting) in the real world that is explored due to active involvement of the student. Similarly, von der Heidt & Lamberton (2011) identify the importance for students to “apply sustainability concepts at individual, organizational and global levels through transformative sustainability assessments, activities and case studies” (p. 683).

In his action research study on embedding sustainability into accounting curriculum, Chulian (2011) examined a stand-alone sustainability accounting course offered as an elective
within an undergraduate business degree, and explored whether students’ perceptions of sustainability, and the role of business in achieving it, would be varied as a consequence of the lessons and activities that formed part of the course. Through this research, Chulian found that

Students started the course with a markedly economic view of accounting and its role in the . . . organization, as well as the relationship between firms and the environment. This scheme of values and beliefs was expected and the objective of the course was to bring it out . . . to be able to question it. [On completion] . . . the majority of students showed changes in their discourse with regard to the objective of accounting, a broader view of the management of an organization and the proposal of alternative scenarios to the way of doing business. The students attributed this change not only to wider knowledge, but to the challenge involved in thinking over and questioning some of the beliefs that they may have taken for granted based on other courses in the syllabus. (2011, p. 261)

As Cortese (2003) proclaims, to support a sustainability future the process of education will emphasize active, experiential, inquiry-based learning and real-world problem solving to support development of future leaders who are equipped to solve the complexities and uncertainties they will face in a changing world.

**Challenges and enabling conditions.** The literature reveals several impediments to change and several enabling mechanisms to embed sustainability in curriculum. Martin and Steele (2010) note a significant concern with faculty about the lack of resources (e.g. a specific text), a shortage of qualified staff, and a minimum of flexibility in course content; while Chulian (2011) identifies that the lack of specific textbooks means adopting a teaching approach whereby course structure, methods and assignments have to be planned in accordance with requirements set out in extant literature and earlier experience. AASHE (2010) and von der Heidt &
Lamberton (2011) found that academic faculty drive each program, and it is therefore crucial to have key, influential faculty on-side and provide them appropriate resourcing such as course development time, and professional development opportunities. It is also critical to have a faculty coalition of champions to provide guidance and act as a motivating vehicle for continued change (de la Harpe & Thomas, 2009). “Effectiveness of any curriculum change initiative relies heavily on the willingness of academic staff to engage in this work and where necessary to change the way they design, teach and assess within their discipline” (de la Harpe & Thomas, 2009, p. 76). A further potential impediment is skepticism amongst faculty of the relevance of exploring – within a business or accounting program – broader political, social, and environmental context in which business takes place, underlying the importance of development opportunities, and sharing of emergent information (von der Heidt & Lamberton, 2011). In addition, professional bodies are identified as key stakeholders influencing accounting education, notably through the accreditation process, and can significantly affect what is considered as core accounting curriculum (Gray & Collison, 2002; Martin & Steele, 2010).

In summary, Adams and her colleagues (2011) assert that business and accounting academics have a significant role in developing leaders capable of responding to sustainability issues. These leaders would acquire the skills and values “to engage critically and in a transformative manner with the boundaries and relationships that they interact with in their everyday practice” (p. 170). Such transformation also means challenging ourselves in higher education to practice self-awareness, acknowledge the values, and adopt the approaches which will lead to the emergence needed if people are to continue to live sustainably in the future, and recognize and encourage the diversity in professional leadership essential to ensuring that solutions to changing global issues serve the interests of organizations and broader society.
Conclusion

This review examines five streams of literature that the inquiry henceforth utilizes as its constructs for research design, and data analysis. The literature on the foundation of systems thinking frames and supports the transformative change that is required to embed sustainability within organizations as a new purpose and organizing principle (Bopp & Bopp, 2006). This in turn may support the diffusion of sustainability into broader society. As Meadows (2008) asserts, the strongest leverage point for system change involves the transformation of the system’s paradigm: “the mind-set out of which the system . . . arises” (p. 162). The literature reviews the role, opportunity, and leverage points of organizations, the accounting function, and higher education curriculum for enabling this transformative change (Adams et al., 2011; Bopp & Bopp, 2006; Hopwood et al., 2010; IFAC, 2011a; Lubin & Esty, 2010; Meadows, 2008).
Chapter Three – Research Methodology

Overall Design

To respond to the research question, “How can management accounting curriculum in higher education be enhanced to support sustainability?” the design of this research inquiry was descriptive in nature. The research design explored the existing situation within the college’s curriculum of interest, and determined ways to enhance this curriculum to support the objectives of sustainability. As a form of organizational diagnosis (Harrison, 2009), the design involved a curriculum review of management accounting course content and learning outcomes using a suite of theory and praxis-based literature, tools, and frameworks as the comparators. The review assessed the current state of the focal curriculum in terms of supporting sustainability outcomes, and highlighted areas where it could be further enhanced to improve the “systems fit” (Harrison, 2009, p. 324). The design also reviewed external influences on the curriculum, including those stemming from sustainability initiatives within the institution or higher education sector, and those existing and emergent initiatives within the field of professional accounting.

While the inquiry’s technical design utilizes a form of organizational diagnosis as its framework, the process through which the primary data was collected involved a form of participatory action research, known as Appreciative Inquiry (Cooperrider & Srivastva, 2001; Watkins & Mohr, 2001).

Target Population

The study’s target population included a small group of faculty within the case study institution’s School of Business who are involved in designing and teaching the four courses that comprise the School’s management accounting curriculum or who are involved in the School’s emergent business sustainability curriculum. This community represents the entire population of
individuals who teach in these courses, including the chair of the accounting faculty, as well as this researcher. Excluding this researcher, the target population was comprised of seven faculty members, each of whom was invited to participate in the study. Table 1 provides information describing the characteristics of the faculty participants including their personal attributes (section 1.1); professional roles, faculty status, and experience (section 1.2); and the typical student population they serve each term (section 1.3).

Table 1

**Participant Characteristics**

### 1.1 Personal Attributes of Participants:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age Bracket</th>
<th>Family</th>
</tr>
</thead>
<tbody>
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<td>Female</td>
<td>39 - 48</td>
<td>No Children</td>
</tr>
<tr>
<td>Male</td>
<td>49 - 58</td>
<td>Children</td>
</tr>
<tr>
<td>Total</td>
<td>59 - 68</td>
<td>Grandchildren</td>
</tr>
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<td></td>
<td>Total</td>
<td>Total</td>
</tr>
</tbody>
</table>

### 1.2 Professional Attributes of Participants:

<table>
<thead>
<tr>
<th>Faculty Department</th>
<th>Faculty Status</th>
<th>Faculty Role (past/present)</th>
<th>Years at Camosun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Continuing</td>
<td>Instructor</td>
<td>0-10 yrs.</td>
</tr>
<tr>
<td>Management</td>
<td>Term</td>
<td>Instructor &amp; Chair</td>
<td>11-20 yrs.</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>Total</td>
<td>Over 20 yrs.</td>
</tr>
</tbody>
</table>

### 1.3 Attributes of Students Served by Participants:

<table>
<thead>
<tr>
<th>Field(s) of Experience</th>
<th>No. of Participants</th>
<th>Years of Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Accounting</td>
<td>5</td>
<td>0-10 yrs.</td>
</tr>
<tr>
<td>Financial Accounting</td>
<td>3</td>
<td>11-20 yrs.</td>
</tr>
<tr>
<td>Taxation &amp; Audit</td>
<td>2</td>
<td>21-30 yrs.</td>
</tr>
<tr>
<td>Business &amp; Industry</td>
<td>2</td>
<td>Over 30 yrs.</td>
</tr>
<tr>
<td>Management &amp; Leadership</td>
<td>3</td>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of Students per Term</th>
<th>Students' Field of Employment</th>
<th>Noted by No. of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range: 90 - 160 students</td>
<td>Accounting &amp; Finance</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Service &amp; Retail Industry</td>
<td>5</td>
</tr>
<tr>
<td>Average: 135 students</td>
<td>Hospitality &amp; Tourism</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Government &amp; Non-profit</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Small Business</td>
<td>3</td>
</tr>
</tbody>
</table>
The population information in Table 1 is useful as it helps to describe the participants’ sources of knowledge, experience, and mindset; and identifies the participants’ spheres of influence – or reach – within industry and the broader community through the students with whom the faculty interact each day (Bopp & Bopp, 2006; Ferdig, 2007; Sterling, 2011).

Sources of Data

The primary source of data was people, specifically the seven faculty within the target population. Secondary sources of data included publicly-available documents collected from institutional and professional accounting associations’ website material, and institutional internal documents and textbooks requested from staff. Data was collected from self-report data and documentary artifacts. In addition, an institutional advisory group established for the study was available to provide institutional background information, and general advice as required.

Procedures and Study Conduct

Interview inquiry methods.

Overview. Self-report data was collected through interviews with the target population, and was designed to include both qualitative and quantitative information, obtained through a combination of open-ended and fixed-choice questions (Appendix D). The interview questions were malleable to enable a grounding of the inquiry model (Harrison, 2009), and to introduce an element of participatory action research (Cooperrider & Srivastva, 2001) into the inquiry, as further described below. Interviews were established via participant acceptance of researcher invitation (Appendix E), which described the purpose of the research and the proposed interview framework. Before commencing the interviews, the researcher and participant reviewed the interview framework and discussed the participant’s right to withdraw at any time without prejudice. If wishing to proceed, participants were then asked to review and sign a letter of
research consent (Appendix F). The interview data was collected via audio-recordings, which were transcribed by the researcher, and sent to each participant to validate and confirm the content accuracy.

**Conduct process.** Interviews were conducted using the approach of Appreciative Inquiry (AI), which Cooperrider and Srivastva (2001) describe as a “conceptual reconfiguration of action research . . . [to support] change of the ‘second order’ where organizational paradigms, norms, ideologies, or values are transformed in fundamental ways” (para. 4). Like traditional action research inquiries (Stringer, 2007), AI utilizes a participatory approach to observe a situation, reflect on it, plan and organize methods to address the situation, and act on those plans. Furthermore, this spiral of activity may continue as a recurring cycle. The distinction with AI is the appreciative lens through which the inquiry process is undertaken (Watkins & Mohr, 2001), with an aim to “reach its potential as a vehicle for social innovation” (Cooperrider & Srivastva, 2001, para. 1). Watkins and Mohr (2001) describe AI as a strategy for purposeful change that identifies the best of *what is* to pursue the possibilities of *what might be*. The approach involves collaborative inquiry to search for strengths and life-giving forces found within every system. These affirmations are then used by an inquiry’s participants to design the preferred future and ways to deliver and sustain it (Watkins & Mohr, 2001).

**Questionnaire content.** The interview questionnaire (Appendix D) was designed to collect general information about the population; it was then organized using AI’s 4-D model, which frames the questions within four stages of inquiry, including: *Discovery, Dream, Design,* and *Destiny* (Watkins & Mohr, 2001). Specifically, the interview questionnaire was designed to define the participants’ context of sustainability, what a future sustainable world – and the sustainable businesses within it – may look like, and how the role of the management accountant
would change to support this future state. The questionnaire then inquired into the management accounting curriculum within higher education and how participants’ envisioned it could be enhanced to support the evolving role, activities, and tools of the management accountant in this preferred future sustainable world, along with exploring the design considerations and other factors that may influence such curriculum transformation.

**Documentary evidence.** Artifacts from documentary evidence were collected from the School to assess the existing and emergent learning outcomes and content for the management accounting curriculum. These artifacts were sought to provide evidence of course content, corroborate interview responses, as well as identify institutional plans and activities that espouse the values of sustainability. Because the management accounting curriculum is applied programming transferable to professional accounting associations, publicly-available documentary evidence was collected from these associations to identify factors influencing the curriculum. This evidence was in electronic form accessed through each association’s website.

**Data Analysis.** A mixed data analysis method was undertaken (Tashakkori & Teddlie, 2009), whereby a combination of qualitative and a minor amount of quantitative analysis was applied. The qualitative narrative was used to theme, frame, and describe the attitudes, perspectives, and beliefs from the selected participants (Maxwell, 2009), while the quantitative responses provided description information supporting the narrative (Tashakkori & Teddlie, 2009). Specific steps undertaken to theme the qualitative data (Maxwell, 2009) included:

- Identifying key phrases contained within the transcribed, raw interview data;
- Using concept maps to initially organize the data;
• Categorizing the data electronically into organized themes and subthemes, using the literature review, interview framework, and other concepts or theories that emerged from participants, as a guide to categorization; and,

• Synthesizing the organized data into strong themes that was then compared and contrasted with the literature to describe and analyze the findings.

Steps undertaken to organize the quantitative data involved generating descriptive statistics for the areas within the interview inquiry that involved Likert scale ratings (Tashakkori & Teddlie, 2009). These quantitative elements were utilized to obtain from the participants’ commentary a sense of the strength or import underlying the narrative feedback provided.

The purpose of the analysis was to determine the extent to which the management accounting curriculum content and learning outcomes support and reinforce the embedding of sustainability into organizational practice, in addition to influencing factors. I was curious whether this curriculum may be designed to support the embedding of sustainability by shifting the content to consider sustainability principles as meaningful criteria within an organization’s management control systems: in particular, an organization’s information flows, decision-making, and accountability processes. A qualitative assessment of interview self-report data, as well as a small amount of descriptive statistics from the interview responses and documentary evidence, is provided in Chapter Four. The narrative provided rich information that, when compared with the literature, revealed themes that explained why certain curriculum elements were purposely used or avoided. It also described future potential, intentions, and opportunities for further research. The final component of analysis identified further curriculum elements that could enhance the support of sustainability, by comparing the findings to the literature.
**Ethical issues.** As a graduate researcher of Royal Roads University, I have followed the policy and guidelines on appropriate ethical conduct for research involving human subjects. In part, this involved receiving ethical approval for my proposed research from the University’s Research Ethics Board before commencing with any research involving people. In addition, before commencing the research, I consulted with the case study institution, Camosun College, to determine its requirements related to the conduct of research involving academic curriculum, and approval by the faculty chair was received in accordance with college policies.

**Participant confidentiality.** Ethical research conduct involves the consideration of how best to respect and maintain the privacy and confidentiality of research participants. Because the target population for this study was a small group of faculty who are well known to each other and to others within the School, I was concerned that the use of names or recurring pseudonyms in this paper may compromise their confidentiality and my ethical commitments to retain privacy. As such, I have elected to not separately identify participants in the quotations provided in the “Findings” chapter. The themes and descriptions reported in the findings attempt to synthesize the comments of all participants to describe common views and perceptions of the various elements of inquiry. Table 2 provides a summary of the sources cited as direct quotations in the Findings.

Table 2:

*Summary of Direct Quotations Cited in the Findings by Participant.*

<table>
<thead>
<tr>
<th>Partic. 1</th>
<th>Partic. 2</th>
<th>Partic. 3</th>
<th>Partic. 4</th>
<th>Partic. 5</th>
<th>Partic. 6</th>
<th>Partic. 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Quotations</td>
<td>14</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

**Research validity and reliability.** Maxwell (2009) asserts that quantitative researchers generally attempt to conceive, in advance, statistical controls that may be designed into a research inquiry to anticipate and mitigate any threats to the validity and reliability of research
findings. However, with qualitative-focused studies, statistical methods are often not available as the design for the inquiry is inherently different involving narrative collected from people. Indeed, to rule out most validity threats, Maxwell suggests that the qualitative researcher must focus on “using evidence collected during the research itself to make these [threats] implausible” (p. 240). Maxwell (2009) posits there are two broad types of threats to validity that are typically associated with qualitative studies, including researcher bias and reactivity; while Parsons and Servage (2004) suggest the threat to reliability relates to the authenticity of data.

**Reducing bias and reactivity.** Maxwell (2009) describes researcher bias as ways in which researchers may knowingly or unknowingly position their data collection and analysis to support their own preconceptions. To reduce the potential for such bias, Maxwell suggests that researchers reflect on how their own values may influence the conduct and conclusions of the study, and take measures to maintain research integrity. Maxwell describes reactivity as the effect that the researcher may have on the inquiry participants, due to the relationship and influence between the parties. Maxwell argues that it is impossible to eliminate the actual influence of the researcher, and the goal in qualitative studies “is not to eliminate this influence but to . . . understand how you are influencing what the interviewee says, and how to most productively (and ethically) use this influence to answer your research question” (2009, p. 243).

Within this inquiry, I recognize my dual role as researcher and associate faculty within the target population and sub-set curriculum, and as with any researcher, I may have inherent biases. Also, my position as a colleague within the management accounting faculty could bring perceived influence within the target population that may unknowingly bias the participants’ commentary. To limit these potential biases, I closely followed the research ethics protocols of Royal Roads University to ensure the participants provided free and informed consent. I also
reiterated my role as researcher throughout the interview process. The research design further limited the potential bias as the literature provided the filter through which the data was collected, analyzed and assessed, and in the formulation of conclusions and recommendations.

**Improving reliability.** Parsons and Servage (2004) describe research *reliability* as the findings from the research *ringing true* with the experience and understandings of the inquiry’s participants and other researchers or interested parties. Reliability may be enhanced through the triangulation of data, whereby the researcher utilizes multiple sources of data, including a broad variety of participants as interview subjects, and primary and secondary sources of data (Maxwell, 2009; Parsons & Servage, 2004). In addition, Maxwell (2009) advises that collecting “rich data” (p. 244) that is detailed and varied, as well as obtaining respondent validation of interview content, and compiling “quasi-statistics” (p. 245) readily derived from the data are key ways to improve reliability of the data and resulting findings.

In the research inquiry, multiple sources of data were used for triangulation purposes, including the primary interview data, secondary sources of documentary artifacts, and relevant literature. Interview participants included the entire population of faculty – excluding this researcher – to provide the highest variety of possible data within the context of the case study institution and focal curriculum. In addition, each participant’s transcribed interview data was sent to them for content and context validation. Finally, descriptive statistics were collected and are described throughout this chapter and within the research findings.

**Conclusion**

This chapter has described the research design and how the study was conducted in order to respond to the research question, while maintaining high integrity in conduct, protection of privacy for participants, and limiting any threats to research validity. The data gathered through
the research helped reveal the views and perspectives of faculty within the target population and related documentary evidence on potential methods for addressing the topic of embedding sustainability into organizations and society through redesigning management accounting curriculum. In the following chapter, I explore these research findings and the conclusions drawn from them.
Chapter Four – Findings

In support of responding to the research question, “How can management accounting curriculum in higher education be enhanced to support sustainability?” this chapter describes the key findings attained from data collected during face-to-face interviews and related documentary artifacts. Collected data was transcribed, and themes and subthemes were identified; data was then analyzed and compared with the literature.

Discovery Stage – Exploring Sustainability

What is Sustainability? The questions in the discovery stage of inquiry related to supporting participants in sharing stories regarding their awareness, understanding, and perceptions of sustainability; what it means to them, and the positive values or gifts derived from their experiences and activities that they felt supported sustainability. The aim of this stage was to support participants in identifying for themselves what sustainability is, and the aspects of sustainability “that they most value and want to bring to the future” (Watkins & Mohr, 2001, p. 43). Appendix G provides a compilation of the words participants used to describe their views on what sustainability is; these words have been organized into common themes as discussed below. The appendix also includes the words participants used to describe what they considered not to relate to sustainability, phrases they felt were inconsistent with a sustainable future.

Seven sustainability-related themes were identified through the data analysis. The two major themes were social sustainability and environmental sustainability, which the participants often used inter-connectedly in their responses, along with a related concept of restorative approaches which intersected these spheres. There were two themes related to sustainable commerce, including sustainable production and consumption systems, and financial
sustainability. And finally there were two spheres related to systems, including the concepts of systems thinking and transformation and innovation.

**Socio-environmental themes.** As the themes of social sustainability, environment sustainability, and restorative approaches were often used concurrently, I have combined them in this section. The theme of social sustainability included phrases such as inter-connections between people, the importance of community, social justice and inter-generational equity; it included concepts of giving, expressing empathy to others, eradicating poverty, and shifting back to being citizens rather than consumers. The following comments reflect the participants’ perceptions of the primary theme of social sustainability and related restorative approaches:

I’ve seen . . . places that are not as economically wealthy [as Canada], but you can see in many ways their standard of living is higher, they have a greater sense of community, respect for others, for the environment, and you come back with an appreciation that maybe how we do things here isn’t necessarily the best way.

The most profoundly changing things we’re doing right now are with the students and the giving . . . the social justice side of sustainability . . . when they see these people [at a local community services provider], when they meet these people, when they serve these people, now they understand the need. They understand the connection, and they understand the change they can make in those people . . . to see the change that that has in the students in every real measure is really, really powerful.

The theme of environmental sustainability included phrases or words used by participants that described physical elements of the natural environment, such as green, green space, wilderness, and natural resources. For example, one participant used the words: “Harmony, balance, green, nature, quietness . . . [and] inter-relationships”. It also included considerations
such as respecting the environment, and recognizing the permanence of decisions related to environmental degradation. As one individual states, “because I have a child, I think it is important for everyone to recognize that we are leaving this earth [to others] . . . we want to preserve it as best we can for many generations to come”. Whereas another participant shares,

Being in the environment is actually something that I’ve discovered . . . I need to do . . . quite regularly to keep me sane, essentially. I need to be in a wilderness kind of environment or some major green space quite frequently . . . [and] it’s not something you can go back to if you take it away – it’s gone – the permanence of any decision to develop in a green space is something that I’m conscious of.

Commerce themes. Within the two themes of sustainable commerce, the theme of sustainable production and consumption systems included concepts such as the 3Rs of reducing, reusing, and recycling. Many individuals spoke of waste reduction or elimination, and the related concepts of using everything, closed-looped cycles, and resource efficiencies: the need to produce quality products that last, and ceasing the production of junk earmarked for the landfill; concepts related to sustainable food production, such as organic farming and sourcing healthy foods from local farmers and producers. Comments reflecting the participants’ perceptions on sustainable production and consumption systems included the following:

My initial interest in sustainability came through food . . . I looked at things like recycling, reusing and reducing waste . . . they came naturally in terms of what I was doing. Not for any altruistic reason . . . it was a money saver, there were eco-efficiencies to be had if I changed things, so there was no reason not to do this.
I think back to my parents who wasted nothing, who used everything. And I think we’re no longer like that. We’re much more wasteful and I suspect that’s what we’re meaning when we say let’s get back to sustainability.

The second commerce-related theme of financial sustainability involved notions of accountability, ethics, and corporate responsibility: employee wellness and safety; utilizing a triple-bottom-line decision framework, and its related concepts of internalizing externalities, value-based business practices, focusing on stakeholders (rather than shareholder); and sustainable investments. As one participant said,

More focus on the three Ps, people, profit and planet. But sustainable profits in a sense that we care about the work environment . . . how we make our product so that the employees are not put in a harmful environment, and for me the big thing really is consumerism . . . if we were to just stop consuming so much then we wouldn’t have corporations seeking to just produce a lot of junk. I look around, and I see so much stuff is inevitably earmarked for the landfill.

The on-going imperative of business solvency was recognized; however, with it came considerations beyond short-term financial profitability. One person suggests that the ultimate sustainability is to “make the environment survive but we also need business reasons behind it, they don’t necessarily mean financial gain, they mean how can we ensure when we do invest in these initiatives they . . . help the business to sustain”.

**Systems themes.** The final two themes related to a systems focus – systems thinking and transformation and innovation. Participants discussed the systems thinking theme in respect to whole systems thinking, systems complexity and changeability, the nesting of systems and subsystems and their relationships to each other: the need to step back from a system to see the
larger systems it is a part of; the importance of understanding that one individual is part of many nested subsystems and that their actions can bring positive change within those systems. One participant expressed it with particular clarity:

Sustainability for me is that on-going maintenance of systems . . . our social system, our environmental system, and our economic system . . . large systems are made up of smaller systems that eventually funnel down to individuals . . . the systems are completely inter-connected . . . complex and unpredictable . . . you can’t fully understand the totality of the system by only examining individual parts – you have to step back and . . . appreciate the system as a whole . . . from a business standpoint [this] is one of the challenges that we have . . . We tend to focus into one place in the system [without] an appreciation that this is going to have a positive or negative affect on the rest of what we do. So that for me is fundamental to understanding or being able to tackle issues of sustainability.

Concepts that participants discussed within the transformation and innovation theme related to thinking for the long-run and methods to evoke change such as personal awareness, the power of sharing stories, and how stepping out of our normal field of interest and connecting with others will increase our awareness, which can spawn new understanding, ideas and actions. Some participant comments illustrate these perceptions:

[I consider] ‘what am I doing to contribute to a better society’, in terms of volunteering, in terms of watching what I’m consuming, watching the packaging that I have a choice of buying. I know I still have a long way to go, because I still drive when I could ride my bike and those kinds of things. But I’m getting better, I’m aware.
You can teach somebody something, you can tell them something . . . but until you
actually see it in action . . . you don’t actually realize that it had an effect . . . that turning
moment . . . [and] that has filtered down to [others] . . . they see someone taking action
that’s turned out positive . . . so they’re in turn inclined to do the same thing.

**What sustainability is not.** While participants offered extensive narratives describing
what sustainability is, many participants also provided their perceptions of what sustainability *is
not*, which may also be of value for better understanding the concepts of sustainability within the
context of higher education curriculum. Participants described what sustainability *is not* citing
examples such as environmental degradation, disparity in wealth, food security issues, and the
sanitizing or hiding of ‘bad’ things from what people see in their lives – like homelessness, what
our landfill actually looks like, and the social and environmental conditions in countries where
our offshore manufacturing and resource extraction occur. Participant comments reflect what
sustainability *is not* in the various themes of sustainability:

**Social sustainability:**
Almost 16% of Canadian kids live . . . below the poverty line . . . [students] don’t
recognize that because we’re very good at . . . hiding our problems. We’re very good at
sanitizing, we have clean streets here; people don’t see [city] dump . . . even to go to the
dump you don’t see the dump because you just put it into a bin . . . there’s this divorcing
of issues of reality . . . this disconnect.

**Environmental sustainability:**
We have environments where . . . the really nasty stuff well we’ll just produce that off-
shore . . . Having been in [Asia] . . . near the petro-chemical industry and seeing literally
black streams, where nothing, *nothing*, grew on the banks of canals and streams.

*Nothing!* I mean that is just scary.

**Sustainable commerce:**

The 1% – the occupy wall street – movement, I think that there was just a lot of young people who felt that the very rich . . . aren’t accountable in any way to the world in which we live in. And they’re rich because of these corporations that just take everything – all of the resources – and use them up without ever thinking that we’re going to run out.

**Ambiguity of sustainability.** Some participants were uncertain how to define sustainability, stating that the term was ambiguous or a buzzword that may be used for non-authentic purposes. As one person mentioned, “I don’t think about sustainability. I don’t know what people mean when they use that word and so, I think I’ve deliberately stayed away from it.”

In summary, most participants were able to identify and describe words, phrases, and stories of personal experiences and values that they connected with sustainability to define what it means – what it *is* – to them. Many participants also described sustainability using scenarios they perceive it *not* to be. In analyzing the data, I noted that three participants described sustainability using the triple-bottom-line lenses of social, environment, and economic; and they touched on all of the themes described in this section. The remaining participants viewed sustainability primarily through either a purely environmental lens, an enviro-economic lens, a socio-economic lens, or a purely economic lens. These perceptions are useful to understand as we move into considering the preferred future state, or *dream stage* of the inquiry.

**Dream Stage – Imagining the Sustainable Future**

The dream stage of Appreciative Inquiry involves “challenging the status quo by envisioning a preferred future and describing that future” (Watkins & Mohr, 2001, p. 44). It
involves engaging in conversations to discuss what is possible, and what we would like to see in the future by bringing forward those elements of our collective potential of what could be (Watkins & Mohr, 2001). In this stage of the interview, participants were asked to imagine that it was the year 2030 and we had become a sustainable world. Within this context, participants were then asked to describe what that preferred future looked like, and how businesses and industries may be acting differently in a sustainable future relative to today. The inquiry then explored how the management accounting function would shift to support this preferred future.

**The future sustainable world.** In the sustainable future, participants described society and community – and the people within them – as thinking globally but acting locally, and caring for the local community and broader environment within which we live. They describe a world which has become less limited by geography and more integrated, where people live in complete compact communities, and have an appreciation for land and water use, clean air, and healthy locally-sourced food. Participants envision city planning and transportation systems that are built to minimize carbon, energy, and other footprints; and there are fewer cars and more town centres to support walking and cycling. Individuals are more self-sustaining, having gardens, canning and freezing food, and hanging clothing to dry; they are more aware of what they buy.

There is a restorative nature to how society functions – restoring the meta-systems (social, environmental, and financial) damaged in the past. Technology is leveraged to work closer to home, and create more efficient products (e.g. all-in-one devices, rather than separate televisions, computers, stereos, phones). In this world, participants imagine that people are consuming less and there is less waste; more resources are now available for future generations and our environment is less toxic.
Education involves raising children to become good citizens, having responsibility for broader society, rather than simply acting as consumers, and learners are equipped with the tools and mental capacities to acknowledge the need for continued sustainability. Participants describe family events as being more meaningful, involving things like picnics rather than outings to the mall. They envision that higher standards of integrity and ethical practices are the norm, and that people aren’t afraid to question the way we do things, and no longer find it acceptable for businesses to externalize the cost of waste and pollution onto broader society. Sustainability has become ‘the way we do things’, and children from the present-day have grown up with the concept – knowing nothing differently – and they are now teaching their children. The following comment illustrates these perceptions well:

There would be more of a focus locally, more local communities . . . I envision smaller houses, closer together, more walking space, more natural space, using technology . . . [to] work closer to home, working in your community, so that we don’t have just big cities and the commute. More reliance . . . sources of food and other resources . . . more locally. And an appreciation, in terms of land use, water use, an understanding [of] how much it affects our life and how much it could be damaged. A more holistic view . . . not just dollars . . . a more family, more community-oriented view.

**Sustainable economy and commerce.** In the future sustainable world, participants describe the economy as being sustainability and knowledge driven, rather than commodity driven. Participants described that the purpose of the economy is to support the people in communities, rather than the other way around, and that businesses and industry are acting differently in the new economy by responding to a changing global context with broader expectations that extend beyond short-term financial profitability – as noted by one person:
We have an economy that is based on something other than resource extraction... we have taken steps... that position us to be that model of sustainable life... we are going to have a robust eco-system, a robust economy that is not based on resource extraction, and we’re going to be able to live up to those ideals that there is a somewhat more egalitarian sharing of what we’ve got... those groups that we identify right now as disadvantaged... have better opportunities to... realize [their] potential.

Participants describe that businesses are not only realizing sustainable operational efficiencies, but are acting responsibly for their waste and pollution, and accounting for the full cost of their products – there are no longer externalities borne by broader society. Sustainable businesses are changing their purpose through innovation, by transforming the products and services they offer to respond to stakeholder expectations for triple-bottom-line benefits – as explained by one participant:

Businesses will start to realize that part of their financial sustainability depends on their connection with the community and the connection with the community needs to respect that the community is moving towards desiring environmental responsibility. That connection... would actually be evident in business practices.

Participants also envision a renewed focus on product and service quality with businesses providing healthy, long-lasting products and services. New customer relationships have emerged, and businesses are collaborating with broader stakeholders in a genuine way. One individual imagined that more businesses are adopting the position of business thought leaders, who say:

If our product needs repair, bring it in and we’ll repair it so that you can wear it longer. Once it is totally worn out, bring it back to us and we’ll try to recycle it into something else, so they are recognizing [the need for change].
Sustainability standards and benchmarks are now commonplace so that businesses are being valued by the market and society based on broader, more-relevant criteria, so that “people are actually making real change, as opposed to spin.” Another participant proposes that Sustainability is going to be the core business value . . . we’re going to have the tools, the ability to measure, to create that scorecard, that evaluative technique that . . . recognizes the value of sustainability and that companies are going to be able to have principles of sustainability integrated into the business, as opposed to being extraneous.

The shifting function of management accounting. This section of the inquiry bridges the dream and design stages of AI, where participants described their perceptions of how the management accounting function would evolve to support business organizations and society in attaining their preferred sustainable future. After the former discussion, participants were in a position to explore how the curriculum design in higher education may need to shift to deliver the necessary knowledge, skills, and abilities for management accountants to respond to the evolving needs. Three themes emerged from participant comments on how the management accounting function would change. The first theme involved the role and potential for management accountants; the second theme involved the concepts and tools used in management accounting; and the third theme involved identifying enablers in transitioning to meet the changing context.

Role and potential. Participants described management accounting as a vital function within business organizations to support a sustainable future. Participants perceived management accountants as educators and information facilitators within organizations: collecting, organizing, summarizing, and providing relevant information for use by decision-makers. In the sustainable world of the future, participants described this relevant information as
extending beyond the financially-focused data collected now. Thus, the participants envision broader information related to financial, environmental and social data, both within an organization and beyond it to incorporate potential impacts to key external stakeholders from organizational activities. One participant illustrates these perceptions as follows:

Information that the management accountant deals with now – that tends to be more financially based – it will have to be broader. It can be environmentally based, or . . . happiness of employees, it’s going to have to be much broader. So the information that they collect will be beyond just numbers. [Accountants] would have to have that role . . . they . . . would be in the best position for information, for assessing, and for reporting.

Participants also described the role of management accountants as supporting the implementation of organizational objectives and strategies, and guiding those strategies to reduce risks and locate opportunities in anticipation of a changing external environment, as management accountants are focused on planning for the future. The participants perceived the management accounting function as well-positioned to support organizations in developing, enacting, and maintaining strategies to address the changing external environment related to sustainability.

One comment reflects participant perceptions:

A key role of a management accountant is to assess the risks and opportunities that are present in the external environment, and to help to guide the strategic direction of the organization . . . the management accountant . . . takes what’s happening in the environment based on . . . trends and issues, translates it into financial decisions and strategic decisions and then helps to guide the strategy of the organization . . . that is that critical piece that a lot of companies are missing in seeing how the external environment is changing and seeing how they need to change their business practices because of that
external environment change . . . we help to guide the company to better adapt to what is happening out there, recognizing that shift towards the environmental sustainability – is just becoming more and more obvious, more and more evident, necessary.

With management accounting, you’re really looking toward the future, because you’re always saying ‘how can we improve’, ‘how can we do it better?’, ‘what’s coming down in the future’, ‘what are we expecting’, and ‘how do we make it better’. So, in that sense sustainability goes nicely with management accounting, in that you’re always looking to improve your operations . . . so you’re looking toward the future.

Participants also commented on the potential for management accountants to meet the currently unfilled need within organizations for professionals that have the balanced perspective to support the multiple criteria of sustainability, along with having the knowledge, skills, and abilities to embed and maintain those strategies. The accounting profession is envisioned as a potential champion for this role, as one person articulates: “I would hope that [in future] accountants actually have become leaders in [sustainability] . . . we would be seen as champions within the organization . . . we have . . . another specialty that students and professional accountants could pursue”. While another participant suggests,

Management accountants can have that quarter-backing role . . . that people could recognize [have the] training and perspective . . . [for] understanding and implementing . . . and have the tools to be that expert, to be that person that can straddle, that can make the internal assessments that need to be made. That can compare those to the industries that you’re in; that can create the strategic vision that’s going to shift the business, or . . . improve that sustainability performance in your organization.
**Concepts and tools.** Participants described many concepts and tools in management accounting that could be enhanced to support sustainability. These included many concepts related to *breadth*, such as collecting and considering broader information and broader elements regarding potential impacts that may be caused by proposed organizational activities, broader-based decision making and incremental analysis, considering broader costs and benefits beyond the walls of the business, and broader dimensions in performance measurement and reporting. Participants also conceptualized breadth with regard to time, describing the need to consider information and impacts based on life cycles. The understanding of concepts related to supply chains and other evolving partnerships were also discussed in terms of the shifting considerations related to sustainability. Participant comments illustrate these perceptions:

Management accountants would have a lot more costs to track. Because they’re suddenly tracking costs beyond the walls of the factory . . . it’s a much more complex costing environment and that’s what I think is a huge change for management accountants . . . it’s one . . . I think comes naturally into the profession and I think it would be embraced with enthusiasm in many ways to start tracking those costs.

Integration of actions [and their effects], in terms of how will this action affect, not just our bottom line, but how will this action affect the community, how will it affect the environment, how will it affect water quality, how will it affect interactions with people, how will it affect the ethics . . . so a much broader view in terms of what the outcomes could be, and what are our different courses of action.

Regarding how tools would change, many participants again cited that existing tools could be used in expanded ways to support broader considerations. Many participants envisioned the use of expanded evaluative frameworks and scorecards, and suggested that
costing, capital budgeting, and other decision support models could be expanded to incorporate further monetized information such as external stakeholder costs, or quantitative information on physical flows such as energy and water usage and greenhouse gas emissions. The participants commented on expanding the focus and considerations related to by-products, scrap, waste, and other costs of quality in organizations; they talked about the use of expanded measurement, valuation, and reporting tools to incorporate the value derived from multiple capitals or bottom lines. Further use of strategy tools to scan and evaluate the external environment, like the PESTLE (political, economy, social, technological, legislative, and environmental) was also suggested. As one participant commented, “the key is to find the [accounting] tools that fit the strategy”.

**Enablers.** The participants’ comments revealed potential enablers to facilitate transition of the management accounting function to support a sustainable world. These included shifting the prevailing mindset, championing within the profession, and filling the education gap. Participants described the importance of incorporating sustainability within an accountant’s mindset, so that accountants will consider such information as a key factor in decision-making. As one participant explains: “It’s useful to incorporate [sustainability] within an accountant’s mindset, so that they think of this as being just as vital a decision-making component as things like efficiency.” Championing by the accounting professional associations was described as a key enabler to facilitate this shift. In addition, having educational programming both for students and members of the profession was seen as critical to build the necessary awareness, knowledge, and evolved toolkit to support the transition. As another participant expressed,

It really needs to be taken up by the profession [which] needs to say . . . we’re integral parts of the management team and we are going to be champions of this in the
organization . . . [but] until we make it part of the education plan, how are we preparing our students to be the future leaders in these organizations.

In summary, most participants were able to imagine and describe what a preferred sustainable world of the future would look like. They described a more holistic world, where business and society considered their purpose and activities from a broader perspective and based on broader information, which extended to concern for others around them and the environment within which we live. The function of management accounting was seen as an integral system within organizations to enable and support more-sustainable outcomes, by enhancing existing models, practices, tools, and considerations used by accounting professionals in their role as information managers who facilitate decision-making, and support the achievement of organizational strategies and objectives. Participants cited the importance of shifting the mindset of accountants to understand this evolving role, and identified championing by professional associations and educational programming as key components for transition.

**Design and Destiny Stages – Exploring Management Accounting Curriculum**

The design and destiny stages of the inquiry involved the participants reviewing the existing management accounting curriculum at Camosun College, and then exploring how that curriculum could be enhanced to develop the knowledge, skills, and abilities that they considered as necessary to evoke and support sustainability outcomes.

**Existing curriculum.** Participants were first asked to describe the various management accounting and related courses they taught at Camosun College. Table 3 provides a summary of their responses, while Appendix H provides a listing of the course description for Camosun’s management accounting courses (Camosun, 2013F).
Table 3  
*Camosun College Management Accounting and Related Courses taught by Participants*

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acct 207: Managerial Accounting <em>(non-accountant stream)</em></td>
<td>2</td>
</tr>
<tr>
<td>Acct 220: Management Cost Accounting 1</td>
<td>4</td>
</tr>
<tr>
<td>Acct 320: Management Cost Accounting 2</td>
<td>3</td>
</tr>
<tr>
<td>Acct 420: Management Cost Accounting 3</td>
<td>3</td>
</tr>
<tr>
<td>Business and Sustainability</td>
<td>1</td>
</tr>
<tr>
<td>Business Strategy</td>
<td>2</td>
</tr>
<tr>
<td>Certified Management Accounting Fast Track Program</td>
<td>2</td>
</tr>
</tbody>
</table>

Participants were then asked to rate on a scale of 1 to 10, the extent to which they perceived the existing management accounting curriculum to be linked to supporting sustainability outcomes in organizations and society. A rating of 1 represented a weak link, while a rating of 10 represented a strong link, between existing curriculum content and sustainability. For the seven participants, the responses ranged between the ratings of 1 and 6, with an average rating of 2.3. Participants were then asked for their perceptions on how useful it would be to enhance the curriculum to better support sustainability outcomes, and to rate that perceived usefulness on the same scale of 1 to 10. A rating of 1 represented a perception of low usefulness, and a rating of 10 represented a perception of high usefulness. For the seven participants, the responses ranged between the ratings of 8 and 10, with an average rating of 9.0. In describing the benefit of enhancing curriculum to support sustainability, one person offered the following insight:

When we’re thinking about what the world would be like in [the future], we need to start now in terms of our education. And if we want to have a broader world, a broader appreciation by our citizens and the community, we have to be starting in school . . . this is where we can see . . . what is possible, and help people to start thinking in a broader way.
Curriculum enhancement. In this segment of the inquiry, participants contemplated how the evolving knowledge, skills, and abilities they had identified earlier, could be designed to best fit the management accounting curriculum. Within this context, they discussed structural considerations such as where the enhanced content may fit, approaches for content delivery, and potential placement within programs. Additional process considerations were briefly described, such as emergent pedagogy and the instructor’s role. Finally, change-making considerations were discussed, including external influencing factors, and enablers and barriers to change.

Structural considerations. While the evolving role, concepts, and tools of management accountants was discussed in the previous stage of inquiry, this segment focused on where participants thought it would be best to introduce these identified shifts into the management accounting curriculum at Camosun. Many participants asserted the importance to have these concepts introduced right at the beginning. As one participant shared,

I don’t think it can be something that you go through courses and focus just on financial and then at the end you go ‘oh yeah, by the way, there’s these other things’, so I see it as being right from the get-go.

Participants also suggested that the concepts of sustainability need to be introduced into all management accounting courses, and it’s more a matter of identifying what to introduce in each course, as the following comment articulates:

There should be some tangible mentioning or identifying of sustainable practice or sustainable concepts in each one of those classes . . . it’s accepting the principle that sustainability can be a part of any curriculum . . . and identifying the right element, or level of engagement, that suits that particular course . . . it’s a matter of saying what are
the increased knowledge, skills and abilities we want the students to have throughout the school’s management accounting classes [and delivering that].

Table 4 summarizes the participants’ responses to the question of introduction point, ranging from introducing the topic in 200-level courses to introducing the concepts everywhere.

Table 4: Perspectives on Where to Introduce Enhanced Content in Management Accounting Curriculum

<table>
<thead>
<tr>
<th>Best Point of Introduction</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everywhere – All Management Accounting Courses</td>
<td>5</td>
</tr>
<tr>
<td>Initial Offerings of Management Accounting Courses:</td>
<td></td>
</tr>
<tr>
<td>(Acct 207 and Acct 220)</td>
<td>4</td>
</tr>
<tr>
<td>These Courses and Other Courses Too</td>
<td>2</td>
</tr>
<tr>
<td>(e.g. Financial Accounting, Other Business Courses)</td>
<td></td>
</tr>
</tbody>
</table>

Participants discussed several approaches – or methods – for delivering the enhanced content in the classroom, ranging from implicit or subtle ways to introduce the concepts into the mindsets of students, to explicit and very detailed usage of enhanced tools and modeling. Regardless of the method offered, participants appeared to recognize the value of introducing the new concepts and tools, and the underlying purposes it served to build awareness, to make it a new element of consideration – in thought and capabilities – and to make it a new norm in the conversations of future financial professionals. The subtle approaches for introducing the concept of sustainability into the mindsets of management accountants, included methods like framing classroom discussions around the concepts of sustainability, and using sustainability scenarios or sustainable companies in examples. One viewpoint exemplifies the subtle approach:
You could make a point of bringing that up in each class . . . frame it . . . it’s inherent in management accounting, I think, but . . . you could make a point of discussing that with students so that they see there’s a responsibility even with them . . . to look toward that.

The more-explicit methods involved using enhanced and emergent models and tools in the classroom content and learning outcomes. Participants suggested that regardless of the approach – subtle or detailed – that it would be useful to embed the approach into student deliverables such as: exercises, assignments, case studies, practice sets, exam questions, and emergent field studies, as one participant articulates:

Having more of a focus on . . . something that is broader than just the number of widgets, costs, etc., which is primarily in the course now . . . And, tying in more internationally, so in the courses you can see, yes this is being done . . . make the course as real-life and hands-on . . . as possible. So, not just theoretical . . . and then having the students help to formulate their critical thinking and analysis.

Participants offered extensive suggestions regarding potential placement within the School of Business programs. Some participants suggested course-based embedding of material as discussed above. Others suggested a sustainability-focused management accounting course as a fourth-year elective to provide in-depth study of emergent tools and models that could fast-track the transition to sustainability within businesses. A few participants suggested both embedding sustainability throughout existing courses, in addition to a fourth-year focused-course. Some participants also suggested that the School could offer a major or minor in sustainability to accompany its functional-based (e.g. accounting) diploma and degree programs.

Participants expressed the importance of building flexibility into structural decisions as they were bound to change over time, as sustainability moved more into the mainstream and the
School became more aware of optimal programming, and connections within and between courses. For example, while faculty may determine that subtle forms are a useful approach in early days, they would likely expand their methods to incorporate more explicit methods as the use of the concepts and tools matured over time.

**Process considerations.** Some participants discussed broader considerations of pedagogy, which they described as emergent practices in management accounting curriculum in higher education, such as the use of field-work case studies and student-led learning models to improve the transformative learning experience. In addition, participants recognized their inherent influence with the students they work with, and the need to respect their role in delivering relevant, balanced, and quality information to the students they serve. A participant suggests, “to add value to a capstone course . . . they could do a field study [with] industry or business . . . I think that that is one of the best learning experiences that they could take away for themselves,” and in discussing the instructor’s role, further articulates,

> I’m responsible for providing students with the most current and up to date information that I can . . . [to] build the competency within the classroom environment, where they could walk out of that classroom and say I have a pretty good understanding of what that would look like in the business world.

**Change-making considerations.** This segment of the inquiry explored participant perceptions on various elements that may influence, enable, or challenge the modification of management accounting curriculum at the college. The initial questions focused on external influencing factors such as relevant college-wide plans and professional association activities. The inquiry then explored whether barriers were perceived to exist, and ways the college, school, faculty, or others may support the suggested curriculum enhancements.
Influence of college-wide plans. In discussing external influencing factors, participants were asked whether they were aware of any college-wide plans or initiatives to enhance curriculum to support sustainability. Most participants identified that sustainability was one of the four pillars – or overarching goals – within the college’s strategic plan, and were not aware of whether or not a strategy existed within the plan to enhance curriculum to support sustainability. Some participants commented that although college-wide plans may exist, curriculum development is fully within the scope of faculty. Therefore, such plans bear little direct influence, but faculty recognized that they would provide an indicator of underlying support should the faculty initiate curriculum changes.

Influence of professional associations. Most participants recognized the support of professional associations as a critical influencing factor for curriculum content. Almost all core accounting courses at Camosun are recognized by the associations for transfer credit toward professional accreditation (Camosun, 2013b). As such, participants identified professional competency requirements as an integral curriculum consideration. Participants suggested that each of the three associations were discussing sustainability to some degree, and had identified sustainability as a key attribute of the profession (CGA, 2013), or as a key focal area of practice (CICA, 2013). However, almost all participants felt that the student programming (CPA Canada, 2013) did not yet reflect those strategic intentions. In addition, participants recognized that merger discussion amongst the associations was the current focus, and if emergent programming was under consideration it would be delayed until conclusion of the merger. However, several participants thought the merger would bring diversity to the profession and offer increased support in future for embedding sustainability into new student programming. The following view was offered by one participant:
This would be . . . an incredible opportunity to get [sustainability] built into their curriculum. Unfortunately, [the merger is] moving incredibly quickly, which is great . . . but also it’s like a missed opportunity. Having said that I think that once . . . the dust starts to settle that they will have the opportunity to tweak the curriculum.

Other external influence factors that participants mentioned to a lesser extent were community, industry, and students. As one participant notes,

[Students] coming into college have a broader, and in some way better, appreciation for what they want the world to look like. They are more inter-connected than I was . . . so I see that [sustainability] will have to move forward because that is what they will require. Just focusing on profits is not what they’re looking for.

**Barriers.** Participants offered rich commentary over a wide-array of topics on barriers, ranging from instructor or course level barriers, to school or college level barriers, and those beyond the college. Their comments within topics are presented in order of volume. At the instructor or course level, participants identified the key barriers to changing management accounting curriculum as threefold: faculty knowledge-building, development of materials, and time constraints for course delivery. Indicative questions and comments included the following: “where do I begin”, “what do I add”; and “how would I tie these concepts in”; along with “who has time to develop materials”, “there’s not much coverage in standard textbooks”, “what do I take out [of the course]”, and “there’s only 14 weeks”.

At the school or college level, participants identified the key barriers to change: time lag due to curriculum process, uncertainty over authenticity of support at the college-wide level, lack of conversations at the school level regarding its vision for sustainability, and changes in leadership and key relationships within the school. Indicative comments at the college level
included: “it’s too much trouble to change curriculum with the existing process requirements”, “it’s glacial to change things here”, “colleges are by their nature, slow-moving animals”; along with, “the strategic plan is not measurable”, “we always have a new flavour of the month”, and “I don’t know if the commitment is real or lip service”. Indicative comments at the school level included: “we haven’t had needed conversations on the school’s position and strategy”, “we need to talk about this more at the program level”; along with, “the person who provided the glue is now retired, and we have to build new relationships”, “we have to have consistency amongst several instructors who might be teaching sustainability topics”, and “we had a sustainability committee, we were gaining momentum, then a leadership change happened, and it just died”.

Beyond the institution, participants identified key potential barriers as accreditation – transferability of Camosun courses to professional accounting bodies, and other post-secondary institutions; and, the lingering mindset in some businesses, and by extension, the accountants who work with them. On this latter matter, here is an indicative comment:

There’s still enough of a mindset – not to disparage Milton Friedman – but that business mindset that still is pervasive that says, there’s one over-riding reason for a company to exist and that’s to return profits to shareholders . . . by extension you have to believe that there’s going to be accountants, like there are other business people, that will still have that mindset so I would say that it’s over-coming that.

Enablers. In discussing enablers to support changing management curriculum, major themes emerged: faculty consensus; instructor support – be it for developing resource materials, supporting instructor scheduled development time for knowledge-building, or hiring the right people; and commitment and focus from leadership. One participant suggests, “it’s a matter of gaining the consensus of faculty . . . it’s creating that working group that’s committed”;
another participant comments, “we’d need a library of resources to help us where our standard
textbook does not have much in it, and articles and things like that”; while a third participant
asserts, “if it’s important then you’ve got to make a commitment to it – it’s about on-going
commitment and focus”. Participants were also asked what they believed to be the one most
important enabler to support the curriculum enhancements. One participant concluded that it
was establishing a close connection with a professional accounting body, while several others
felt that the consensus of faculty, development of material, and faculty education were most
important; yet another participant felt that department champions was the critical make-or-break
factor to manage the transition:

The most important thing that could happen is to create some real champions in the
department that can really be those advocates that can help . . . to be the glue that holds
this together . . . faculty are going to be the ones that make or break it.

In terms of next steps, many faculty expressed that a school-wide conversation around
sustainability was important, to understand where the school wanted to position the initiative
moving forward. Participants recognized that many faculty are interested and motivated. They
suggest that the initiative needs a few champions to carry it to that next stage. Faculty also
commented that moving forward has to be for authentic reasons, and not for marketing purposes.
On a department basis, one participant suggests, “the management accounting faculty could get
together and, as a deliberate exercise . . . figure out how [to] install this into the current topics
that we teach . . . that’s completely faculty work – it’s meant for faculty to do that.”

Conclusions

This section provides the research conclusions based on the comparison of the literature
with the above findings from the interviews and documentary evidence.
Conclusion 1: Sustainability is a broadly-defined, holistic, and restorative concept.

As introduced in earlier chapters, sustainability carries many meanings depending upon the context or frame through which it is described, but in general involves the consideration of multiple criteria in the decisions and actions we take, within our realms of influence, to equally support ecological, social, and economic imperatives (Dale, 2001; Ferdig, 2007). The participant comments revealed that the current levels of understanding about sustainability are diverse, with some participants having general awareness while others have considerable education and interest in the field. Most participants were able to describe sustainability, and provide meaningful examples of what it meant to them. The meanings and expressions of sustainability offered by participants were aligned with the variety of descriptions provided in the literature (Dale, 2001; Daly, 2005; Ferdig, 2007; Hopwood et al., 2010; UNESCO, 2004)

Conclusion 2: The sustainability world of the future thinks globally, acts locally, and cares for its community and broader environment. In applying the concepts of sustainability to an imagined future world for society, most participants were able to construct what a sustainable future would look like within our global society, and the communities, economy, people, and environment that form a part of it. The responses were, once again, varied ranging from detailed conceptualizations to uniquely personal perspectives. Participant comments clearly reflected the need to consider the balanced imperatives of sustainability to support the on-going existence of life in our world. In line with the literature, it was recognized by most participants that human society, including commerce, relies upon the ecologic services provided by our natural world, and that society’s health and wellness equally benefits from being in nature (Boyd, 2004; Brown, 2006; Folke et al., 1996; Steffen et al., 2004). One area presented in the literature that was less recognized in interview responses was the linkage between socio-
ecological degradation and the financial implications to broader society that may be incurred as a direct or indirect result of the socio-ecological affects (Folke et al., 1996; Hopwood et al., 2010; McDonough, 1993; Steffen et al., 2004; USGAO, 2013). This difference appears consistent with broader society’s awareness related to such currently-externalized costs (Antheaume, 2007); it also highlights the need and opportunity to expand such education for financial professionals.

**Conclusion 3:** Sustainable organizations create strong communities, healthy ecosystems, and economic value, by responding to their changing global context.

Participants recognized that organizations profoundly influence human production and consumption systems (McDonough, 1993). Participants offered a rich variety of perceptions and ideas of how the evolving activities and innovations of industry and businesses may be different in a future sustainable world. Key themes related to businesses changing their purpose and relationships through innovation, by transforming the products and services they offer to healthy, long-lasting choices for customers, and by responsibly managing the full life cycle impacts from their business activities. Participants also held the common perspective that regardless of what specific activities that businesses may be doing, that one underlying purpose remained constant, and that is for businesses to work within the context of their external environment. Participants commonly recognized that this external environment is changing and would continue to change within a future sustainable world with more expectations, by a broader group of stakeholders, for a broader suite of triple-bottom-line outcomes; and these views are consistent with the literature (Bertels et al., 2010; Hopwood et al., 2010; KPMG International, 2012; Lubin & Esty, 2010; Nidumolu et al., 2009; Senge et al., 2008; Willard, 2009).

**Conclusion 4:** The management accounting function is an integral system to embed sustainability into organizations. Participants recognized the potential for the management
accounting function to support organizations in transitioning to, and maintaining, their sustainability objectives and strategies. Several participants envisioned accounting professionals as key leaders to facilitate this emergence (Bopp & Bopp, 2006; Martin & Steele, 2010). Most participants explained several concepts and methods through which the management accounting function could shift. They identified the primary underlying change in approach as expanding beyond the boundaries of the existing financial focus within organizations to incorporate measures and criteria related to broader and longer-term environmental, social, and financial goals – both within the organization and beyond it (Antheaume, 2007; Dale, 2001; Hopwood et al., 2010; Meadows, 2008). The challenges related to these transitions within the accounting profession involved shifting the prevailing mindset of its professionals by increasing the knowledge-base and growing the awareness through championing activities within the profession and expanding the educational programming within the professional program and in higher education (Collison et al., 2007; Martin & Steele, 2010; von der Heidt & Lamberton, 2011). Collectively, the participants were able to describe many of the emergent concepts, tools, and models that the literature identifies to support the shifting of organizational practices toward achieving the broader goals of sustainability (Doody, 2010; EPA, 1995; Hopwood et al., 2010; IFAC, 2011a; Schaltegger et al., 2006). This diversity and broad-based understanding amongst the faculty will be useful in supporting any curriculum enhancements they make going forward, as participants noted it is departmental practice to work collecting on such matters.

**Conclusion 5: Management accounting curriculum may be enhanced to foster a sustainable future.** Regarding the existing management accounting curriculum at Camosun College, most participants characterized it as financially-focused within the boundary of the organization (rating curriculum-sustainability linkage as low) and offered a strong interest in
enhancing curriculum to support sustainability (rating curriculum-sustainability usefulness as high. These ratings appeared consistent with the narrative offered by the participants in other segments of the inquiry.

Participants provided a variety of perceptions on where and how to embed the concepts of sustainability both within the management accounting courses and the School’s broader programming; they also provided varied approaches to content delivery, ranging from subtle methods to in-depth modeling and application. Some participants also described the need to utilize progressive pedagogy in the delivery of management accounting courses, which as the literature suggests (Mackeracher, 2004; Sterling, 2011) would provide the transformative learning that may be required to best support sustainability. Finally, participants expressed the importance of flexibility in course design approaches recognizing that the field of sustainability is rapidly evolving and the School would be learning throughout its early decision-making.

Participant perceptions related to the above structural and process considerations, and their perceptions related to change-making considerations, closely mirrored those discussed in the literature (Adams et al., 2011; Chulian, 2011; Gray & Collison, 2002; Khan, 2013; Martin & Steele, 2010; Sharma & Kelly, 2012; Sterling, 2011; von der Heidt & Lamberton, 2011).

The role of the instructor was discussed by several participants, in terms of the importance of leading by example, and having awareness of the inherent influence that instructors have with the students they work with each day. The concept of the worldview through which instructors deliver curriculum was also discussed, although in at least one instance it was framed within the context of concern that delivery of new content may be construed as a personal agenda or bias. Meadows (2008) asserts that our worldview is an important concept to consider, as is the importance of stepping back from the existing models we use in our teaching
to question their relevance in a changing global context, something that many professionals are challenged to do (Chulian, 2011). Meadows (2008) refers to this phenomena as “exposing our mental models to the light of day” (p. 175), explaining the importance of recognizing that “everything everyone knows, is only a model” built on the assumptions learned at some point in time. As our environment changes, it is important to review those assumptions as they will likely need to evolve, and it is critical that faculty examine the worldview through which they approach the delivery of curriculum to ensure it remains valid in our changing global environment (Adams et al., 2011; Chulian, 2011; Gray & Collison, 2002; Meadows, 2008). A consequence of the implicit nature of such “hidden curriculum” (Bebbington & Thomson, as cited in Chulian, 2011, p. 243) is that it may never be criticized nor may any doubt be cast on whether it is reasonable. What gets emphasized and assessed will typically draw the attention of students and form part of the knowledge and capabilities they take forward into their future (Chulian, 2011; von der Heidt & Lamberton, 2011).

In conclusion, to the research question, “How can management accounting curriculum in higher education be enhanced to support sustainability?” and to recognize the achievement of the two research objectives, I would offer the following. The findings appear to support the notion that the participant faculty of Camosun College understand the concepts of sustainability, and appreciate the need to further embed these concepts into the management accounting curriculum delivered within the School of Business. This activity is in alignment with the Camosun’s institutional plans including their strategic plan, education plan, and campus plan (Camosun, 2013a; 2013c; 2013d). It also supports broader sustainability initiatives in higher education, which Camosun has agreed to support as a signatory (ACCC, 2012; Camosun, 2013e). Collectively, the management accounting and business sustainability faculty have the diverse
understanding of the various emergent concepts and tools that may be applied to the management accounting curriculum. Key enablers for such curriculum change include the beginning of broader conversations, identifying champions within the faculty, providing education and other course resources for instructors, and college leadership reinforcing its commitment to sustainability. In terms of the purpose behind the faculty’s interest in supporting this initiative, I would suggest the answer lies in appreciating the value of education. As the participants recognized, education brings awareness to learners and opens new pathways of understanding (Bopp & Bopp, 2006; Sterling, 2011), and participants recognized that further educating tomorrow’s accountants and leaders was a critical factor toward designing the preferred sustainable world of the future.

Limitations of Research

This research involved a comprehensive synthesis of five streams of literature, which were used as a filter to conduct the research inquiry. However, the inquiry’s design explored the research question by examining a subset of curriculum within one institution. Furthermore, the target population for this subset curriculum was a small group of faculty within the college’s business school. Therefore, the findings and recommendations in this paper are quite specific and defined to the case study institution. While I would posit that the process for review may use a similar approach in other schools within the college, or other institutions in BC or outside jurisdictions, it is important to recognize that the findings and recommendations would vary in most instances as the environment within which each school and/or institution operates may be different. In addition, the scope of the inquiry involved examining the management accounting curriculum in the college’s business school. Participant responses at times provided commentary that applied to curriculum in other areas within the school, or to pedagogical elements that were
outside of scope of this inquiry. I have attempted to address this matter in my section on potential future research in the next chapter.

Finally, I must recognize my dual role as researcher and associate faculty within the target population and sub-set curriculum. As with any researcher, I may have inherent biases. Also, my position as a colleague within the management accounting faculty could bring perceived influence within the target population that may unknowingly bias the participants’ commentary. To limit these potential biases, I closely followed the research ethics protocols of Royal Roads University to ensure the participants provided free and informed consent. I also reiterated my role as researcher throughout the interview process. The research design further limited the potential bias as the literature provided the filter through which the data was collected, analyzed and assessed, and in the formulation of conclusions and recommendations.
Chapter Five – Recommendations and Summation

Introduction

This chapter provides recommendations to reply to my research question “How can management accounting curriculum in higher education be enhanced to support sustainability,” and will be specifically applied to the study’s system of interest, Camosun College, and the management accounting curriculum within its School of Business. The recommendations are derived from the Chapter Four “Conclusions” section, and are organized according to curriculum design considerations focused at the departmental level, and key elements of change-making that support such curriculum modifications. A summary is provided to synthesize the research, describe potential future work, and the benefits the researcher hopes may be derived from this work.

Recommendations

Curriculum design at the departmental level. This section focuses on considerations related to curriculum design at the accounting faculty department level. School-wide curriculum or program considerations will be addressed as a component of change-making. Instructors within the accounting faculty are directly responsible for the curriculum content, new proposals for curriculum modification, and delivery for the programs and courses they offer. Based on this sphere of influence, I would recommend that the management accounting faculty purposely convene to collectively review the curriculum in accordance with their normal practice. Specifically, I would offer the following recommendations:

Recommendation 1: Identify potential content changes and fit within courses. As a team, conduct a mapping exercise to map the potential enhanced content related to supporting sustainability outcomes to existing management accounting courses, and identify potential new
courses for consideration of proposal. Appendix C provides an exemplar from the literature of the expanded role and tools for management accountants that may support the embedding of sustainability into business organizations and, by extension, into society. 

**Recommended completion time: six months.**

**Recommendation 2: Identify approaches to content delivery.** Collectively identify the range and combination of approaches to deliver the proposed content enhancements – e.g. subtle methods to build awareness to detailed applied modeling – and identify their pros and cons. These considerations may include concepts related to pedagogy and transformative learning (Sterling, 2011); student focus, as what gets emphasized and assessed receives attention (Chulian, 2011; von der Heidt & Lamberton, 2011), existing time constraints, and other elements the faculty deem as relevant. 

**Recommended completion time: six months.**

**Recommendation 3: Develop an implementation plan for curriculum redesign.** Using the results from **Recommendations 1 & 2** above, develop options for implementation of curriculum redesign, including identifying near term versus longer term enhancements in management accounting courses, the timeframe for developing proposals for any potential new courses, and consideration of other decisions such as co-streamed accreditation options within the accounting programs. Provide recommended options and timing for implementation. These options may include the potential for future expansion into other areas within the accounting curriculum, such as financial accounting, audit, non-profit accounting, and capstone courses.

**Recommended completion time: one year for plan development; up to five years to implement.**

**Recommendation 4: Identify departmental champions and volunteers.** As many of the participants identified, while motivation and momentum has been present within the department and School in the past, sustainability initiatives require time and commitment to consider what to
transform, how and when to do it, and in understanding why – the purpose for doing so and the need it addresses. Like other transformative initiatives (Bopp & Bopp, 2006), sustainability transformation will require the focused energy of several individuals to move it forward. These champions would steward its implementation and progress, and identify other volunteers who are interested in developing their own capacity, developing course and library materials, and delivering pilot offerings of modified courses. *Recommended completion time: three months.*

**Recommendation 5: Continue to engage with other proponents, and expand relationships beyond the College.** The School of Business has a sustainability committee that is currently idle. As that committee re-engages, it is recommended that multiple accounting faculty participate to share the load, and provide diversity to school-wide discussions. The College also has an emergent environmental sustainability council (Camosun, 2013e) with some representatives from the School. If the accounting faculty is not currently represented, it is recommended that they join that group to facilitate curriculum knowledge-sharing and identify potential synergies with other college programs. The faculty has a long-standing relationship with the professional accounting associations, and therefore has some influence with respect to professional competency requirements. The faculty may employ these relationships to expand the conversation on the role of accountants in supporting sustainability, and how the professional and student educational programming could enable that. In addition, as noted by several participants, the college and departmental faculty is not alone in transitioning to support sustainability, and it would be useful to seek out proponents in other jurisdictions of higher education, and develop or expand community partnerships related to curriculum matters. *Recommended timeframe: commence immediately and on-going.*
Enabling conditions for change-making. This section focuses on key elements at the School and College level that may enable the accounting faculty department’s modifications to the management accounting curriculum in support of sustainability. Professional accounting associations are another key influencing factor that would significantly enable curriculum enhancement; extending that relationship is a component of Recommendation 5 above.

Recommendation 6: Re-start the conversation (school). In recent years, the School of Business had a group of strongly-interested faculty working on exploring how to embed sustainability into the School’s programs and courses. According to participant comments, those conversations are now idle due to changes in key leadership and long-term faculty who provided the glue to maintain the momentum for transition. Several participants commented on the awakening (Bopp & Bopp, 2006) or re-sparking of interest that this research project brought to them in considering sustainability and how they may contribute to normalizing its concepts and practices in society. It is therefore recommended that a concerted effort by the School leadership and its faculty be made to re-start the conversations regarding sustainability. Through this dialog, the School could establish its working vision for where it wishes to go with this initiative, and as part of that discussion, consider its school-wide program design and how the courses within these programs fit together and may provide a consistent voice and the holistic outcomes necessary to support a sustainable future. Consideration of accreditation options (e.g. major, minor, co-streams) are also suggested. Recommended timeframe: six months to re-engage.

Recommendation 7: Re-charge the school committee (school). Further to above, it is recommended that the School’s Sustainability Committee be re-engaged through a call of interest to faculty and administrators. This Committee may be the source for identifying champions and motivated volunteers at the school-wide level who may provide the necessary roles and
momentum to implement emergent school-wide sustainability programming, with similar benefits as identified in Recommendation 4 above. Recommended completion time: six months.

**Recommendation 8: Continue to support faculty development (school/college).**

Knowledge-building and the development of course resources to supplement the lack of existing textbook material were seen by the participants as key enabling conditions to facilitate the embedding of sustainability into curriculum. In past, leadership at the School and College level has voiced their support for utilizing scheduled development time, professional development programs, and College funding to support sustainability-focused work. It is recommended that that support continue, and be reinforced through on-going communications provided by School and College leadership. Recommended timeframe: commence immediately and on-going.

**Recommendation 9: Re-affirm the leadership commitments (school/college).** Further to the above recommendation, it is recommended that leadership at the College, and by extension School level, re-affirm the commitment to sustainability that is currently embedded in the institutional plans. This re-affirmation would provide a necessary assurance to faculty that the time they invest in moving forward in this transformational initiative is a long-term investment that will continue to be supported by their leaders, and to use familiar financial terminology, will provide the faculty, school, college, and all of their students with a return on that investment. As a component of re-affirming its commitment, the College may wish to examine its organizational structures and approval processes related to coordinating and delivering transformative curriculum change. Recommended timeframe: commence immediately and on-going.

**Summation**

Camosun College appears to recognize its potential role in enabling a sustainable future, as evidenced through the institutional planning, activities, and participation in broader higher
education initiatives to support sustainability. The findings of this research suggest that the management accounting and business sustainability faculty appear to share this awareness and an appreciation for the systemic issues at play, and their potential contribution towards transformation.

Marshall and Brown (2003) and Meadows (2008) assert that systemic change is made possible through small changes at key leverage points that can create transformation, and these points are not always apparent in the planning of strategic initiatives. Because sustainability initiatives are inherently complex – involving multiple conditions (financial, ecological, and social), stakeholder roles, attitudes and perceptions, as well as decision-making processes and information flows – a clear elucidation of the methods for moving these initiatives forward is essential (Marshall & Brown, 2003). Business and other organizations are described as complex, self-organizing systems (Doppelt, 2010; Senge, 2006; Starik & Rands, 1995). Systems thinking can help organizations plan and implement specific initiatives that influence system conditions, including its own and other systems or actors that it may influence (Marshall & Brown, 2003).

Implementation frameworks have emerged for embedding sustainability into organizational practice, describing the importance of systems thinking and offering models for aligning an organization’s internal management control systems with its purpose and strategy (Bertels et al., 2010; Doody 2010; Doppelt, 2010; IFAC, 2011a; Starik & Rands, 1995). The management accounting function is an integral component of an organization’s management control systems, supporting its information flows, decision making, and accountability. Because accounting information is used for decision-making, it can motivate behavior and has the potential to influence people (Horngren et al, 2013; IFAC, 2011a; Schaltegger et al., 2006), and leveraging these influence points may act to operationalize sustainability within organizations
and further diffuse sustainability into society through the products or services that organizations deliver (IFAC, 2011a; Willard, 2009).

Martin and Steele (2010) assert that for sustainability to permeate organizational strategy, operations, decision-making and the allocation of resources, the accounting profession needs to understand the range of relevant considerations and develop further practices and tools that can account for sustainability impacts. Conceptually, this involves the expansion of historical boundaries of consideration (Antheaume, 2007; Dale, 2001; Hopwood et al., 2010; Meadows, 2008), including what is considered, who is considered, and for what timeframe. Extensive literature and guidelines are available from global accounting bodies, and non-government organizations, describing the role, tools, and techniques available to management accountants to support organizational strategy to embed sustainability (Doody, 2010; EPA, 1995; IFAC, 2011a). Appendix C illustrates the shifting role and expanded tools drawn from these resources.

To embed these elements into the standard protocols in the field of professional accounting, the curriculum in accounting education would evolve to incorporate sustainability concepts and applied tools for practice (ACCA, 2002; Collison, Ferguson & Stevenson, 2007; von der Heidt & Lamberton, 2011). The higher education sector has a significant opportunity to enable this transformation (AASHE, 2010; Collison et al., 2007; de la Harpe & Thomas, 2009; UNESCO, 2010; von der Heidt & Lamberton, 2011). The research findings and recommendations recognize and corroborate these assertions.

**Future potential research.** There are many avenues of future research opportunities that could result from this inquiry. Action research opportunities to foster self-awareness and personal development of the college or professional accounting communities is a natural next step. In addition, implementation of the proposed curriculum redesign (as a sustainability-related
intervention) and its subsequent evaluation from an institutional, professional, student, or outcome perspective could be explored. Further curriculum redesign within the School of Business, other schools in the institution, or within the professional accounting associations or other institutions, may stem from the momentum created by this study, as could further sustainability initiatives within the institution. As one participant noted, there remains a pervasive mindset in some businesses that will need to shift to best support a sustainable future. Learned students may help with that; however, they may also face frustration in working within these organizations that lag behind them in thinking. Additional skills may be required to work in this transitioning environment, and the curriculum in business schools may need to shift to support those skills. This is another potential area for important near-term research. Finally, exploring teaching modes, models and pedagogy to invoke a transformative learning environment to enable sustainability is another broad area offering significant research potential.

**Benefits of research.** This research synthesizes five streams of literature that, to date, have not normally been brought together. It is a comprehensive study to seek answers that may help society to respond to the complex questions of our time, and discover potential latent but transformative leverage points within our human systems of society, business, the accounting function, and educational systems that foster the knowledge-building and critical thinking in our future leaders, professionals, and citizens who will live and serve within these broader systems.

The research provides an indication of how one institution may progress toward achieving its sustainability goals by furthering the embedding of sustainability into its academic curriculum. The researcher’s intention is to help provide knowledge-building and capacity to move forward on the social diffusion of sustainability principles into this one institution and all of the students that it nurtures through its academic programming. I hope that this work will aid
the institution in designing further organizational frameworks and support for its evolving culture and leadership to thoughtfully embed sustainability into practice. This change, in turn, will increase awareness in the minds of our future leaders and citizens, and aid new generations toward becoming a sustainable society.
References

AASHE. (2010). *Sustainability curriculum in higher education: A call to action*. Accessed from Association for the Advancement of Sustainability in Higher Education website:

http://www.aashe.org/files/A_Call_to_Action_final%282%29.pdf


ACCC. (2012). *Pan-Canadian protocol for sustainability*. Accessed from Association of Canadian Community Colleges website:


doi:http://dx.doi.org/10.1108/20408021111162191


http://www.experienceintegral.org/index.php?eID=tx_mm_bccmsbase_zip&id=3672744795043b9a17f570

Camosun College. (2013a). *About Camosun*. Accessed from Camosun College website:

http://camosun.ca/about/


Hawken, P. (1993). A declaration of sustainability: 12 steps society can take to save the whole enchilada. Accessed from: 

http://nypolisci.org/files/PDF%20FILES/ChapterX_%204_A%20Declaration%20of%20Sustainability.pdf


HRH, the Prince of Wales. (2012, December 13). A speech by HRH the Prince of Wales at the Accounting for Sustainability forum [conference speech]. Retrieved from: 


IFAC. (2011b). *Competent and versatile: How professional accountants in business drive sustainable organizational success*. Accessed from the IFAC website viewer:

http://viewer.zmags.com/publication/b908956a#/b908956a/1


Martin, A., & Steele, F. (2010). *Sustainability in key professions: Accounting. An action research program*. Accessed from the Australian Research Institute for Education for Sustainability (ARIES) website:


Appendix A: Management Control Systems Conceptual Framework

Developed by D. L. Rasnick (2012)

**PLAN:**
* Strategic Plans
* Performance Measurement Systems
* Organizational Structure
* Job Descriptions
* Internal Communications

**IMPLEMENT:**
* Decision Tools
* Procurement Policies
* Reward Systems
* Budget Allocation
* Staff Training
* Social Marketing

**EVALUATE:**
* Performance Analysis
* Feedback
* External Reporting

**MONITOR:**
* Accounting Systems
* Performance Tracking Systems
* Internal Reporting

Alignment of Strategy/Systems
Appendix B: A Portfolio Approach to Embedding Sustainability (Bertels et al., 2010)\textsuperscript{1}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{portfolio_approach_diagram.png}
\caption{Diagram of Portfolio Approach to Embedding Sustainability}
\end{figure}

Appendix C: Role and Tools of Management Accountants

Adapted from (Doody, 2010; EPA, 1995; IFAC 2011a)

ROLE: Areas of sustainability where the management accountant may get involved include:

Strategy development:
Ascertaining the financial risks of external developments with regard to sustainability;
Identifying opportunities for more efficient use of resources;
Helping to assess the potential costs of failing to undertake sustainability initiatives;
Incorporating sustainability issues into strategic planning and project evaluation; and,
Supplier relationships and supply chain management.

Systems and information flow:
Assessing the need for new or modified management information and financial systems;
Helping to meet the need for complete and reliable information (such as useable information regarding utilities usage or business travel) to enable resources to be managed with maximum effectiveness; and
Implementing a formal sustainability management system.

Costing:
Costing areas that directly relate to environmental objectives such as footprint impacts (carbon, water, air), waste treatment, resource recovery, disposal, or site maintenance;
Making environment- and social-related costs more visible;
Helping to improve methods for reallocating internal environmental costs, such as energy, water, waste costs to specific products and activities;
Identifying and estimating costs resulting from the organization’s activities that are being met by society and others (externalities); and
Highlighting potential future environmental and social costs that should be recognized in current operations.

Investment appraisal:
Employing capital/project/initiative investment and appraisal tools that more effectively incorporate environmental and social costs and benefits.

Performance management:
Performance measurement and monitoring of environmental and social costs, liabilities, and savings; and,
Identifying and benchmarking against best environmental and social practices.

Reporting:
Preparing accurate, consistent, transparent internal reports to support decision making; and,
Contributing to external environmental and wider sustainability reporting.
Compliance:
Ensuring compliance with legislation and regulations, both present and projected;
Understanding the potential impact on the business of current and forthcoming environmental legislation;
Considering the financial costs and risks associated with an investment, product, or process that will likely cause or increase environmental damage;
Assessing potential liabilities of past practices that have caused environmental damage; and
Offering expertise in the financial evaluation of environmental litigation and settlement options.

TOOLS: New or enhanced management accounting tools supporting sustainability.

Triple-Bottom-Line, or Multiple Criteria, outcomes (environmental, social, economic).
Strategic risk assessment tools, such as PESTLE analysis (Political, Economy, Social, Technological, Legislative, Environmental), or a modified version of SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats).
Making visible externalities and life-cycle implications, using costing tools such as:
Full Cost Accounting (FCA),
Multiple Criteria Analysis (MCA),
Life Cycle Costing (LCC),
Life Cycle Budgeting,
Total Cost Assessment (TCA).
Sustainability Balanced Scorecard as a strategic management and accountability tool.
Aligned rewards and compensation systems.
Aligned performance measurement and evaluation system, including building appropriate environmental, social, and economic key performance indicators (KPIs).
Aligned capital/project/initiative investment and appraisal tools (e.g. business case templates/tools). And, use of Qualitative Decision Models, such as Dashboards.
Using similar tools in incremental analysis, procurement practices, and supply chain management.
Enhanced/expanded scenario forecasting and sensitivity analysis.
Allocating environmental and social costs using cost allocation methods such as enhanced Activity Based Costing (ABC) and Transfer Pricing. These techniques will make these costs visible and help in costing, pricing, reporting, evaluation, and decision-making.
Enhanced Total Quality Management tools.
Material flow and footprint (carbon, water, air, toxins, waste) accounting and analysis.
Appendix D: Interview Questions

General Information:
• Name, gender, age bracket on 2013 birthday (29-38; 39-48; 49-58; 59-68; Other; Rather not say)
• Are there children/grandchildren in your life?
• Faculty department, position title, regular or term?
• Nature of position, including the number of students typically taught by the individual, and the types of organizations the students are generally employed in.
• Number of years working with Camosun?
• How would you describe your field(s) of accounting/management expertise? Years of experience?

Discovery Stage:
• Imagine that you’re walking in a quiet place, observing the many things around you, and your mind turns to think about “sustainability” and what it means. What words come to mind?
• Now take a moment to reflect on your own life, your activities/experiences… What stands out for you as a time when you felt proud and powerfully connected to supporting sustainability?

Dream Stage: Imagine that it is now the year 2030, and after a great transition, that we have become a sustainable world:
• What does this world look like?
• How are industries and businesses acting differently (than in 2013) in this sustainable world?
• How would you imagine the functions/role of management accountants changing (from 2013) in this new, sustainable world?

Design Stage: Turning to current and future practice as post-secondary educators supporting sustainability:
The Present:
• Which management accounting courses (Acct 207, 220, 320, 420, other) do you teach at Camosun?
• How would you describe the existing content and learning outcomes that you teach in these courses? How do you feel this content and outcomes currently support sustainability?
  o To what extent do you feel the current content/outcomes support sustainability (scale 1-10)?
  o How useful would it be to enhance the curriculum to further support sustainability (scale 1-10)?

Outside Factors:
• What, if any college-wide plans or initiatives are you aware of to enhance curriculum to support sustainability?
• How do the professional accounting associations talk about sustainability? In what ways do their student programs contain any sustainability-related competencies? What if any emergent programming, standards, or practices that may move further in this direction are you aware of?

**Looking Forward:**

• To support our sustainable world of 2030, what do you see as some key sustainability concepts, and supportive management accounting tools, that are important for tomorrow’s accountants to learn about?
• Presuming there were no barriers to modifying curriculum, where would you see these concepts and tools being introduced in the management accounting curriculum?

**Change Making:**

• Are there any barriers to making these changes to the management accounting curriculum?
• What could the college, school, or faculty do to support such curriculum changes?
• What do you see as the one, most important thing that could happen to further the embedding of sustainability content into management accounting curriculum?

**Destiny Stage:**

• Where do you see the sustainability agenda moving in the future in relation to the accounting profession, in higher education, and/or Camosun?
• As a faculty member, how do you feel that you are an important stakeholder and can make a meaningful contribution to advancing sustainability?
• What would you describe as the one thing you could do related to management accounting curriculum to make a difference in supporting sustainability?

**Conclusion:**

• Would you be interested in learning more about sustainability and how accountants can support its diffusion in businesses and society? How strongly would you rate your interest (scale 1-10)?
• To honour your time in meeting today, I wonder if there is anything else you would like to discuss about sustainability or Camosun’s management accounting curriculum? Are there any more stories you’d like to share?
Appendix E: Letter of Invitation

A Shadow Curriculum Review: Embedding Sustainability into Management Accounting

Dear [Participant],

As you may know, in addition to being an associate accounting faculty here at Camosun, I am a graduate student with Royal Roads University (RRU). I am conducting a research project with Camosun College that reviews our management accounting curriculum and whether it could be enhanced to support the embedding of sustainability into organizational practice. My research project is entitled: *Embedding sustainability into practice: Redesigning Management Accounting Curriculum in Higher Education.*

I am contacting you because of your role as a faculty member who teaches in Camosun’s management accounting or sustainability courses in the School of Business, and I would like to invite you to be a part of this research project as a participant in an in-person interview.

I am conducting the project as a graduate student in the Faculty of Social and Applied Sciences at RRU, as part of the requirements for a Master of Arts in Interdisciplinary Studies (MAIS) degree. My credentials with Royal Roads can be confirmed by contacting Dr. Wendy Schissel, MAIS Program Head, at [phone number], or by email at [email address].

**Research Purpose and Objectives**

The purpose of my research is to help society incorporate sustainability into everyday practice. Camosun has similar goals, as evidenced by the college identifying sustainability as one of its four strategic goals, and identifying the embedding of sustainability into core curriculum as a priority within its education plan.

To support these mutual objectives, my proposed research involves conducting a shadow review of the management accounting curriculum within the School of Business to determine ways in which this curriculum could be enhanced to purposefully support sustainability. I am curious whether, by re-designing curriculum toward achieving the common purpose of sustainability, Camosun and the broader higher education sector could improve the likelihood of evoking corporate sustainability, economic transformation, and social diffusion. Perhaps, this in turn would aid our communities toward developing a healthy, just and equitable society whose activities are ecologically regenerative and economically sufficient to provide sustainable value for the long-term good of humanity, and the environment within which we live.

I feel this research is important because it may help build awareness and communicate the potential for organizational transformation within the sectors of public and private sector enterprise, the accounting profession, and higher education, and may help Camosun and others to further their own goals in this area.
Participation and Interview Framework
If you agree to voluntarily participate in this research, your participation will involve investing up to **90 minutes** to answer questions in an in-person interview. At the end of the project, on approval by the organization, the final thesis report and/or a follow-up feedback interview will be available if desired.

Due to the nature of the research inquiry, I have adopted a semi-structured interview process that relies on a number of open-ended questions. My hope is that these questions will invite you to provide information that is rich and detailed, while helping me remain within the scope of the inquiry. The framework for the interview involves obtaining an understanding of your views and perceptions about sustainability and its importance; your thoughts on your organization’s current position in implementing sustainability into the curriculum and where it could go; and exploring the management accounting curriculum we deliver here at Camosun, and how it could be enhanced to incorporate sustainability principles, tools, and outcomes; other thoughts and ideas are also most welcome.

Prior to obtaining consent for the interview, I will answer any questions you have about the process. Your written consent will be obtained before the interview begins, and a copy of the consent form will be provided to you, and one will be kept for my records. In addition, your consent may be withdrawn during the interview, if you do not wish to proceed at any point.

After our interview, I may need to briefly contact you again to clarify information, and I may request permission to receive specific internal documents to verify information we discuss at the interview. In addition, I may ask for a brief subsequent meeting if other interviews reveal interesting questions for which your feedback would be important. I understand that your time is valuable, so should the occasion arise, I will contact you by phone, or other medium of your choice. In any event, any further discussion/interview would require your ongoing consent.

I continue to work with my advisory team at Camosun, to ensure that my research and methods are in compliance with all applicable institutional policies related to research ethics, protection of privacy, and pre-approved access and consent. Camosun’s contact for confirming the bona fides of this research project is Mr. Peter Lockie, Chair, Environmental Sustainability Council.

Contact Information
Thank you for your time! I do hope you will share your thoughts and ideas by participating in this exciting research project, and look forward to working with you and our organization.

Warm regards,
Deborah Rasnick, CGA
Graduate student, Master of Arts in Interdisciplinary Studies, Royal Roads University
Associate Accounting Faculty, School of Business, Camosun College
[Phone number, student email address, and camosun email address provided]
Appendix F: Research Consent Form

My name is Deborah Rasnick, and I am an associate accounting faculty with Camosun’s School of Business, and a graduate student with Royal Roads University (RRU). I am conducting a research project with Camosun College that reviews our management accounting curriculum and whether it could be enhanced to support the embedding of sustainability into organizational practice. My research project is entitled: *Embedding sustainability into practice: Redesigning Management Accounting Curriculum in Higher Education*.

This research project is part of the requirement for a Master of Arts degree in Interdisciplinary Studies (MAIS) at RRU. My credentials with Royal Roads can be confirmed by contacting Dr. Wendy Schissel, MAIS Program Head, at [phone number], or by email at [email address].

This document constitutes an agreement to participate in my research project, the objectives of which are to explore the management accounting curriculum within Camosun’s School of Business to determine ways in which this curriculum could be enhanced to purposefully support sustainability. I am curious whether, by re-designing curriculum toward achieving the common purpose of sustainability, Camosun and the broader higher education sector could improve the likelihood of evoking corporate sustainability, economic transformation, and social diffusion. Perhaps, this in turn would aid our communities toward developing a healthy, just and equitable society whose activities are ecologically regenerative and economically sufficient to provide sustainable value for the good of humanity, and the environment within which we live.

I feel this research is important because it may help build awareness and communicate the potential for organizational transformation within the sectors of public and private sector enterprise, the accounting profession, and higher education, and may help Camosun and others to further their own goals in this area.

**Participation and Interview Framework**

Due to the nature of the research inquiry, I have adopted a semi-structured interview process that relies on a number of open-ended questions. The interview is foreseen to last up to 1½ hours.

My hope is that these questions will invite you to provide information that is rich and detailed, while helping me remain within the scope of the inquiry. The framework for the interview involves obtaining an understanding of your views and perceptions about sustainability and its importance; and exploring the management accounting curriculum we deliver here at Camosun, and how it could be enhanced to incorporate sustainability principles, tools, and outcomes; other thoughts and ideas are also most welcome.

Information you provide will be recorded in hand-written format and audio-recorded, and, where appropriate, summarized, in anonymous format, in the body of the final report. At no time will
any specific comments be attributed to any individual unless your specific agreement has been obtained beforehand. All documentation will be kept strictly confidential.

Summarized data will be retained for a period of ten years to facilitate potential future research by the college, the researcher, or other academics. Individual raw data provided will be retained in a separate, password protected, database for a period of two years for academic integrity purposes, and will be destroyed thereafter. Data will not be retained pertaining to an individual who has at any time withdrawn from the survey. Your name will be collected to confirm the transcripts from our interview, to provide for follow-up questions if needed, and for the purpose of sending follow-up information at the completion of the research project if you wish it.

In addition to submitting my final report to RRU in partial fulfillment for a Master of Arts in Interdisciplinary Studies, I will be sharing the research findings with my advisory team at Camosun College. The Camosun contact for confirming the bona fides of this research project is Mr. Peter Lockie, Chair, Environmental Sustainability Council. A copy of the final report will also be published and archived in the RRU Library. Recommended enhancements to the management accounting curriculum will also be shared with the accounting faculty.

I continue to work with my advisory team at Camosun, to ensure that my research and methods are in compliance with all applicable institutional policies related to research ethics, protection of privacy, and pre-approved access and consent.

You are not compelled to participate in this research project. If you do choose to participate, you are free to withdraw at any time without prejudice. Similarly, if you choose not to participate in this research project, this information will also be maintained in confidence.

**By signing this letter, you give free and informed consent to participate in this project.**

Name: (Please Print): _____________________________________________________________

Signed: ________________________________________________________________

Date: ________________________________________________________________
Appendix G: Participants’ Words Describing Sustainability

Developed by D. L. Rasnick (2013)

<table>
<thead>
<tr>
<th>What is Sustainability?</th>
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<tbody>
<tr>
<td><strong>Environmental Sustainability</strong></td>
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<tr>
<td>Green</td>
</tr>
<tr>
<td>Nature</td>
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<tr>
<td>Respecting environment</td>
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<tr>
<td>Maintaining green space</td>
</tr>
<tr>
<td>Importance of green space</td>
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<tr>
<td>Maintaining natural resources</td>
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<tr>
<td>Permanence of decisions - it's gone</td>
</tr>
<tr>
<td>Wilderness</td>
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<tr>
<td>Natural gardens</td>
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<tr>
<td>Life on planet</td>
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<td>Connectedness of planet</td>
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<td><strong>Regenerative Approaches</strong></td>
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<td>Harmony</td>
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<td>Balanced</td>
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<td>Quiet</td>
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<td>Something can survive</td>
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<td>Preservation</td>
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<tr>
<td>Holistic view</td>
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<tr>
<td>Don't deplete</td>
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<tr>
<td>Higher (non-economic) living standard</td>
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<tr>
<td>On-going, everyday things</td>
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<tr>
<td>Minimizing Impact</td>
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<tr>
<td>Keeps me sane</td>
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<td>Comes naturally</td>
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<tr>
<td>Building awareness through experiencing others</td>
</tr>
<tr>
<td>Available for others beyond my lifetime</td>
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<td>Nurturing, joy</td>
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<td>Effort</td>
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<td><strong>Social Sustainability</strong></td>
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<td>Community</td>
</tr>
<tr>
<td>Contributing to a better society</td>
</tr>
<tr>
<td>Descendants</td>
</tr>
<tr>
<td>Empathy</td>
</tr>
<tr>
<td>Respect</td>
</tr>
<tr>
<td>Framing communication</td>
</tr>
<tr>
<td>Giving back</td>
</tr>
<tr>
<td>Happiness</td>
</tr>
<tr>
<td>Self-esteem</td>
</tr>
<tr>
<td>Sense of peace</td>
</tr>
<tr>
<td>Passion</td>
</tr>
<tr>
<td>Volunteering</td>
</tr>
<tr>
<td>Valuing time</td>
</tr>
<tr>
<td>Shift back from consumer to citizen</td>
</tr>
<tr>
<td>No poverty</td>
</tr>
<tr>
<td><strong>Sustainable Production &amp; Consumption</strong></td>
</tr>
<tr>
<td>Reducing, reusing, recycling</td>
</tr>
<tr>
<td>Minimizing waste to landfill</td>
</tr>
<tr>
<td>Eco-efficiencies</td>
</tr>
<tr>
<td>Resource efficiencies</td>
</tr>
<tr>
<td>Minimizing Packaging</td>
</tr>
<tr>
<td>Sustainable transportation (walk, cycling)</td>
</tr>
<tr>
<td>Compost</td>
</tr>
<tr>
<td>Shopping bags</td>
</tr>
<tr>
<td>Use everything - waste nothing</td>
</tr>
<tr>
<td>Producing quality products</td>
</tr>
<tr>
<td>Mindful of consumption</td>
</tr>
<tr>
<td>Food sustainability</td>
</tr>
<tr>
<td>Organic farms</td>
</tr>
<tr>
<td>Farm-to-table</td>
</tr>
<tr>
<td>Gardening without harm</td>
</tr>
<tr>
<td>Pesticide-free</td>
</tr>
<tr>
<td><strong>Financial Sustainability</strong></td>
</tr>
<tr>
<td>Triple bottom line</td>
</tr>
<tr>
<td>Recognize savings through sustainability initiatives</td>
</tr>
<tr>
<td>Sustainable profits through ethical practices</td>
</tr>
<tr>
<td>Care about employees</td>
</tr>
<tr>
<td>Care about working conditions</td>
</tr>
<tr>
<td>Internalizing externalities</td>
</tr>
<tr>
<td>Stakeholder focus</td>
</tr>
<tr>
<td>Self-sustaining investments</td>
</tr>
<tr>
<td>Value-based businesses</td>
</tr>
<tr>
<td>Corporate Responsibility</td>
</tr>
<tr>
<td>Accountability</td>
</tr>
<tr>
<td><strong>Transformation/Innovation</strong></td>
</tr>
<tr>
<td>Changing things</td>
</tr>
<tr>
<td>Powerful stories</td>
</tr>
<tr>
<td>Understanding connections will spawn ideas</td>
</tr>
<tr>
<td>Light bulb going on actions</td>
</tr>
<tr>
<td>Thinking ahead 60 years</td>
</tr>
<tr>
<td>Designing in quality</td>
</tr>
</tbody>
</table>

What it is not:

- Consumerism, Producing Junk, Big Industry Lobbying, Weak Regulatory Frameworks, Poverty, Sanitizing or the Divorcing of issues from their Causes (example hiding homelessness, landfill), Nutritionally-bankrupt Food, Takers, Social Inequality (e.g. the 1%; wealth disparity), Being Wasteful, Over-Dependence on Non-Local Food Sources, Irresponsible Corporate Resource Extraction, Rooted in Old Thinking, and Lack of Accountability.
Appendix H: Camosun’s Management Accounting Course Descriptions (Camosun, 2013F)

Downloaded from: http://camosun.ca/learn/calendar/current/web/acct.html

ACCT 207 Managerial Accounting (3 credits)

This course is beyond the introductory level and intended primarily for non-accounting disciplines. It is devoted to managerial analysis and decision-making, special purpose reports for management, variable costing and the contribution approach, and budgeting. Note: Not for Accounting Majors. Students will receive credit for only one of ACCT 207 or ACCT 220. Prerequisite: ACCT 110, or ACCT 130.

ACCT 220 Management Cost Accounting 1 (3 credits)

The initial course in the management cost accounting course trilogy. In depth study of the following topics: the vocabulary and fundamental purposes of cost accounting, cost-volume-profit analysis, job costing, cost behaviour, activity based costing, budgeting, decision making, pricing decisions, strategic profitability analysis, transfer pricing, and performance measurement and appraisal. Prerequisite: ACCT 111.

ACCT 320 Management Cost Accounting 2 (3 credits)

Part two of the three-semester inquiry into Management Cost Accounting. In depth study of the following topics: standard costing including flexible budgets and variance analysis, cost allocation, job order costing, variable and absorption costing, joint product and by product costing, process costing including spoilage, and inventory management models such as EOQ, JIT and MRP. Prerequisite: ACCT 220.

ACCT 420 Management Cost Accounting 3 (3 credits)

This course builds on ACCT 220 and 320, providing an in-depth evaluation of cost/volume/profit and contribution margin analysis, performance evaluation, linear programming, decentralization, operation and quality management, strategic planning, transfer pricing and relevant costs. It helps prepare students to write professional accounting, case-based comprehensive exams, in particular the CMA National Entrance Exam. Prerequisite: ACCT 320.