2017

The Sustainability Management Control System: Factors to Consider in Metric Conceptualization

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2017

Abstract

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MBA, University of the Free State, 2007

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Doctoral Study Submitted in Partial Fulfillment

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Doctor of Business Administration

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May 2017

Abstract

The performance metrics embedded in sustainability management control systems (SMCS) provide organizational leaders the ability to affect the implementation and continual improvement of sustainability strategies. Leaders in oil sands companies lacking adequate information on the efficacy of the sustainability performance metrics and their use to enhance their SMCS could be at a competitive disadvantage. Guided by stakeholder theory, the purpose of this single case study was to explore strategies Alberta-based oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics. The target population comprised of 20 oil sands company leaders from an Alberta, Canada, organization who had experience with sustainability and SMCS performance metrics. Data collection occurred through face-to-face, semistructured interviews. Participant observation and document review were secondary data sources. Data were open coded and organized into categories with supporting software to identify patterns and prevalent themes. Member checking was employed to validate themes and strengthened the trustworthiness of interpretations. Findings suggested the importance of organization strategy and leadership, SMCS maturity development, stakeholder influence, management review, and performance metric definition and data. These key factors could assist oil sands company leaders to influence social change by assuring effective and efficient management control to improve sustainability performance and sustainability strategy integration, reduce operational risk to physical assets, and enhance employee health and safety.

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Dedication

This is an optional page for a dedication. If you include a dedication, use regular paragraph spacing as shown here (not centered, italicized, or otherwise formatted). The acknowledgments should not exceed one page.

Acknowledgments

I would like to thank my committee members for their guidance, especially my Chair, Dr. Robert Miller; Second Chair, Dr. Kevin Davies; Methodologists, Dr. Al Endres, Dr. Bruce Lazar, and Dr. Reginald Taylor, and URR Dr. Brenda Jack. I thank all of you for your professional guidance and feedback throughout this process. Finally, I thank my family and friends who supported me.

Table of Contents

List of Tables

Section 1: Foundation of the Study

The region of the Canadian oil sands of northern Alberta is an area of intense mining development. Poveda (2015) reported the projected future demand for oil drives the investment in oil production. Geopolitical tension, concerns about energy security, and the global depletion of conventional oil reserves contribute to the growing societal interest in locally produced oil from unconventional fossil reserves (Poveda, 2015). The significant amount of fixed assets and process hazards, as well as the organizational role of advanced manufacturing technologies associated with oil extraction, create increased technical and managerial complexity for organization leaders involved in oil sands operations (Okoh & Haugen, 2014).

Societal concerns surrounding pollution, overpopulation, biodiversity loss, deforestation, renewable energy, and climate deterioration increasingly dominate energy development considerations of organization leaders (Lertzman, Garcia, & Vredenburg, 2013). Society expects cleaner and otherwise improved exploration and extraction of fossil fuels (Doshi & Khokle, 2012). Leaders of organizations focused on oil sands mining must also improve their public relations and environmental records to achieve sustainability (Poveda, 2015). Sustainable development and espousing principles for corporate social responsibility (CSR) by leaders are critical to the future viability of the oil sands industry (Poveda, 2015). Organizational leaders have identified the need for sustainability management control and improvement to support the implementation and efficacy of associated strategies toward reduced operational risk to physical assets and enhanced employee health and safety.

A sustainability management control system (SMCS), integrated across the critical functions of organizations, can assist leaders to facilitate the implementation of sustainability strategies and improve operational discipline and overall organizational performance (Gond, Grubnic, Herzig, & Moon, 2012). Such a system can benefit energy companies by assisting their managers to control and improve compliance with regulatory requirements (Kibrit & Aquino, 2015) and guide organizational leaders toward implementing sustainability while providing new opportunities for value to stakeholders. The performance metrics embedded in an SMCS provide organizational leaders the ability to affect the design, successful implementation, and continual improvement of the sustainability strategy. Leaders employ sustainability strategy to mitigate industry specific sustainable development risks and support business opportunities and obligations (Baumgartner, 2014). I proposed to explore what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics.

Background of the Problem

The Canadian oil sands industry has experienced rapid growth due to the development of an extensive bitumen resource located in northern Alberta (Dorow & O'Shaughnessy, 2013; Poveda, 2015). Organizational leaders within the oil sands industry implement an SMCS to govern process safety risks, instill operational discipline throughout the enterprise, identify improvement opportunities, progress strategic renewal, and facilitate organizational change. An SMCS with appropriate controls enables organization leaders to implement sustainability strategies to enhance organizational

performance (Baumgartner, 2014). Leaders embed control measures within the SMCS to link with industry and regulatory requirements, as well as with organizational performance (Lueg & Radlach, 2016).

The development of SMCSs by leaders sometimes occurs with inadequate research and information about specific issues, processes, and best practices. This adversely affects the design, development, and implementation of performance metrics that leaders employ to assure the efficiency of the management controls upon which the success of SMCSs rely. The selected performance metrics are a critical component to leaders for the planning, successful incorporation, and continuous improvement of the organizational sustainability strategy.

The interrelationships among the identification of stakeholders, the measurement of performance, and application of collected information by leaders for making sustainability decisions are complex (Brower & Mahajan, 2013). The conceptualization and structuring of appropriate performance metrics mitigating sustainability risk require an adequate understanding from leaders of the influences and other issues affecting sustainability management. A thorough review of the existing literature on sustainable development, CSR, SMCS and operational excellence management, and asset management revealed an ongoing debate regarding the challenges and opportunities of measuring sustainability performance. However, minimal related qualitative research is available.

Problem Statement

Expanded oil sands production has had net positive effects on macroeconomic variables in Alberta and will contribute an estimated 76% of the increases in gross domestic product (i.e., $3,865 billion) from 2010 to 2035 (Poveda, 2015). Of the significant industrial accidents, 20% to 30% are attributable to technical causes, whereas 70% to 80% are the result of social, administrative, or managerial factors (Carrillo-Castrillo, Rubio-Romero, & Onieva, 2013). The general business problem for oil company leaders is how to develop management strategies and practical implementation plans, to mitigate the operational risk associated with addressing sustainability (Rocca & Viberti, 2013). The specific business problem is some oil sands company leaders lack strategies for critical planning, developing, and implementing SMCS performance metrics.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics. The targeted population comprised oil sands company leaders from an Alberta, Canada, organization who was experienced with sustainability and SMCS performance metrics. The findings of this study may have a positive effect on social change by establishing a basis for new information regarding the effective performance metrics for SMCSs. This includes (a) metric identification, (b) metric conceptualization to identify threats toward mitigating risk, and (c) the effect of SMCS metrics on sustainability performance. Increased information on what key issues affect sustainability

controls and the conceptualization of performance measurement may influence the development of business processes that successfully integrate the SMCS with the organization's sustainability strategy, improve risk management practices, and enhance organizational effectiveness. Understanding opportunities to integrate the concept of sustainable development into management controls and to achieve economic growth with the assurance of environmental protection may result in enhanced employee health and safety and thereby improve sustainable development.

Nature of the Study

Oil sands company leaders must consider key issues when researching, planning, and implementing the performance measurement framework concerning the SMCS for improved operational excellence and sustainability management. I conducted the study with a focus on the key issues, processes, and best practices within complex sociotechnical systems. Qualitative researchers seek to explore information about a phenomenon through description to construct knowledge, whereas quantitative researchers seek an explanation and discover knowledge from a variety of information trends and frequencies (Thomas & Magilvy, 2011). Complex research problems may require a mixed method approach by researchers when neither framework alone provides the needed data to understand the research subject (Yin, 2014).

I explored information about stakeholder influences on organizational decisions using a qualitative case study strategy. Thomas and Magilvy (2011) described qualitative research as a method to explore a phenomenon or experience to construct knowledge. Selected study participants consisted of a purposive sample of 20 oil sands company

leaders knowledgeable about sustainability and SMCS performance metrics (Mason, 2010). I conducted the qualitative study to discover themes, patterns, and interrelationships toward increased information on the inner workings of complex interventions (Petticrew et al., 2013). The use of an inductive process of analysis by researchers characterizes qualitative research as a naturalistic method of inquiry to uncover meaning from the perspectives of the participants (Bailey, 2014). I examined or compared no variables in the study because the investigation was exploratory in nature. Exploring the factors and social dynamics influencing an SMCS required a qualitative rather than quantitative or mixed method undertaking.

The study was an empirical inquiry that allowed investigation of complex and contemporary social phenomenon within its real-life context (Yin, 2014). The case study method is appropriate when research involves *how* or *why* questions. In the study, I explored in depth the interaction of users with an SMCS. Other research designs I considered for the analysis were: (a) ethnography, (b) the Delphi method, and (c) phenomenological study. Since the envisioned study did not require data collection from a large cultural group, I discounted an ethnographic study. The Delphi method attempts to predict the future state of a phenomenon and was not appropriate for the proposed study. Since I explored actual activities and situations related to a single case, the phenomenological design was not considered.

Research Question

The main purpose of research is to find answers to questions that matter to society and create intellectual knowledge. I proposed to ask a central open-ended question,

supported by interview questions, to address the research problem in a qualitative context. I investigated the following overarching research question for the qualitative study:

RQ: What strategies do some oil sands leaders use for critical planning, developing, and implementing SMCS performance metrics?

The following interview questions guided the study to explore actual activities and situations related to sustainability strategy, performance metrics conceptualization, and implementation:

1. How do organization leaders initially generate the vision for a sustainability strategy?
2. How do external and internal stakeholders influence sustainability strategy formulation toward operational excellence?
3. How do external and internal stakeholders influence sustainability strategy formulation?
4. How do organizational leaders determine sustainability performance criteria?
5. How are appropriate performance metrics for the SMCS determined?
6. How important are transparent and accurate measurements for the SMCS?
7. How do existing sustainability performance metrics provide comparative information to inform organization leaders?
8. How do performance measures for the SMCS support organizational sustainability values, strategies, and measures?

9. How important are measurement standards to the creation of an organization-wide culture of operational discipline?

Conceptual Framework

Society associated the CSR concept with the social movement of the 1960s and 1970s when diverse approaches developed to involve more than the traditional organization stakeholders in corporate decisions (Freeman, 1984). Freeman (1984) developed the stakeholder approach by advocating for a strategic management organization, which incorporates the concepts of corporate planning, organizational theory, and systems theory. Freeman's contemporary stakeholder perspective suggested leaders embrace expectations beyond those of financial shareholders and considered the preferred method leaders employ to assess the performance of organizations (Harrison & Wicks, 2014). The theory is appropriate for researchers to explore sustainability and CSR of large and multinational organizations (Sen & Cowley, 2013). Researchers employ stakeholder theory to advocate corporate social disclosure as a management tool for addressing the informational needs of the various stakeholder groups (Herbohn, Walker, & Loo, 2014). Stakeholder theory provides researchers the opportunity for a broad view of the corporation as a socially embedded institution (Aguinis & Glavas, 2012). Exploring what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics will assure compliance with sustainability concerns and allow prioritization of business goals within sustainability requirements.

Definition of Terms

Corporate social responsibility (CSR): CSR incorporates actions of organization leaders to advance social well-being beyond the immediate interests of internal and external organization stakeholders and beyond those required by law (Perez-Batres, Doh, Miller, & Pisani, 2012).

Management control system (MCS): The MCS is a set of multiple formal and informal inputs, processes, and output controls used by corporate leaders to achieve organizational goals (Chenhall & Moers, 2015).

Physical asset management (PAM): PAM is the framework of plans and controls employed by leaders to manage physical assets through their lifecycle to achieve the business strategy of the organization (El-Akruti, Dwight, & Zhang, 2013).

Sustainability practices: Sustainability practices involve leadership adoption of inclusive triple bottom line responsibilities and a long-term mindset which have a sustained positive impact on society (Ameer & Othman, 2012).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are matters outside the researcher's control that are accepted as true without further investigation or questioning (Jansson, 2013). The underlying assumptions for this study included: (a) the control measures and performance metrics, embedded within the SMCS, contribute support for leaders to mitigate sustainability risk and enhance organizational performance, (b) the participants would exhibit honesty, integrity, and truthfulness when answering the interview questions, and (c) each participant would

respond to the interview questions without collusion with coworkers and answer solely according to their personal experiences with the design, development, and integration of sustainability metrics within their organization's SMCS.

Limitations

Limitations are aspects that influence the researcher's understanding of the study results (Brutus, Aguinis, & Wassmer, 2013). I explored leaders from one organization to gain detailed information about the context of the actual activities and situations under study. A single researcher completed the coding. Leaders from the same organization employ me; consequently, personal bias could affect the data collected and the credibility of the sources. Because I addressed the research question to leaders from one organization within the oil and gas industry, the results may not be transferable to other industries. The findings may only apply to organizational leaders within the same industry of similar size to the study site and within the same geographical region.

Delimitations

Researchers focus the scope of a study by recognizing delimitations (Bartoska & Subrt, 2012). Delimitations act as boundaries enacted by the researcher in the research and analysis process (Bartoska & Subrt, 2012). I focused on the Canadian oil sands industry; consequently, as noted earlier, the findings may not apply to other industries. Leaders from one organization that has multiple production facilities located within the Alberta oil sands region participated.

The selection of the research question focused the study on a specific issue. I conducted the study to explore what strategies some oil sands company leaders use for

critical planning, developing, and implementing SMCS performance metrics. SMCSs assist leaders to improve sustainability performance and sustainability strategy integration, reduce operational risk to physical assets, and enhance employee health and safety. I used a purposive sample, bounding the study to oil sands company leaders experienced with sustainability management and SMCS performance metrics.

Significance of the Study

During the 1980s, CSR became an accepted managerial practice within organizations, as well as a major academic consideration. Stakeholders challenge organizational leaders to address the environmental and social impacts of the businesses they manage (Rocca & Viberti, 2013). The obligation of organizational leaders is to act responsibly toward all stakeholders, rather than solely financially rewarding shareholders (Freeman, 1984). Oil sand mining is a new and rapidly developing industry. A large number of operational assets, the hazardous nature of operations, and organizational role of advanced manufacturing technologies create increased technical and managerial complexity for leaders (Okoh & Haugen, 2014). Leaders encounter substantial environmental, operational, and safety risks, resulting in sustainability risk (Baumgartner, 2014).

Lack of clarity exists regarding sustainability performance reporting to leaders from the oil sands industry (Poveda, 2015). I expect the research findings will provide new insights into the SMCS performance metrics and their use to control and improve a Canadian oil sands organization's SMCS. An effective SMCS enables leaders to meet their social, environmental, and economic obligations toward society while providing the

enterprise an opportunity to deliver shareholder value and achieve financial objectives through strategic revitalization and subsequent organizational change (Arjaliès & Mundy, 2013).

Contribution to Business Practice

Increased information on what key issues affect sustainability controls and performance measurement conceptualization may assist oil sands company leaders to integrate the SMCS with organization sustainability strategy and enhance organizational effectiveness. Appropriate performance metrics assist leaders by improving operational risk management through improved PAM, asset integrity, and safety management. The identification and establishment of performance metrics enable leaders to measure the effectiveness and efficiency of controls embedded within the SMCS. Organizational leaders then use performance metrics to measure and report compliance with standards and regulations, environmental decisions, and other environmental and social activities (Bocken, Morgan, & Evans, 2013).

Implications for Social Change

The findings of this study could assist leaders to have a positive effect on social change through the provision of new information regarding the means by which effective sustainability integration into the SMCSs and performance metrics are conceptualized to mitigate operational risk. Increased leadership understanding of the influence of sustainability controls and the conceptualization of performance metrics can enhance organizational efficiency and effectiveness. Greater understanding of opportunities to integrate sustainable development into operations toward economic growth with the

assurance of environmental protection will assist leaders in effectively managing sustainability performance and strategy integration. Such information will also assist leaders in the reduction of operational risk to physical assets, employees, and their communities.

A Review of the Professional and Academic Literature

This review of related literature presents information relevant to the purpose of this qualitative study, which was to explore information from oil sands company leaders about key issues, processes, and best practices organizational leaders consider for the planning, development, and implementation of performance metrics. Leaders use performance metrics to assure the effectiveness and efficiency of the SMCS controls. I investigated the following overarching research question: What strategies do some oil sands leaders use for critical planning, developing, and implementing SMCS performance metrics?

The search for literature relevant to the topic included online libraries for peer-reviewed articles addressing the SMCS, sustainability, CSR, and PAM, as well as how factors of change influence organizations. I categorized the review of the literature by major theme to fulfill the purpose of the study and explore the research question and subquestions. The search included the following databases: Academic Search Complete, Business Source Complete, ABI/Inform Complete, and ProQuest Dissertations and Theses. I used the following keywords: *management control system, sustainability, corporate, social, responsibility, performance, stakeholders, PAM,* and *environment*. The search yielded 132 articles published within 5 years of the anticipated year of graduation.

Peer reviewed articles within this 5-year period total 130 and represent 85.6% of all articles.

The review of literature begins with an overview of the development of the Canadian oil sands industry, sustainable development principles, and CSR. An overview of the concepts of operational excellence and PAM follow. The literature draws from both qualitative and quantitative research disciplines. The current information gap for leaders concerning what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics to control and improve a Canadian oil sands organization's SMCS is evident.

The Canadian Oil Sands Industry

Since the early 1900s, oil has become the primary fuel source across the globe. Energy production and use by society have had a significant economic, social, and environmental impact. The oil industry consists of three components (a) the upstream sector responsible for exploration and production; (b) the transportation sector; and (c) the downstream sector that refines and markets oil, gas, and other by-products (Royal Society of Canada [RSC], 2010).

Poveda (2015) indicated the Alberta oil sands deposits contain more crude-oil reserves than in any other country in the world, with the exception of Saudi Arabia and heavy oil in Venezuela. The oil sands contain 170 billion barrels of recoverable oil (Poveda, 2015). The remaining reserves in Saudi Arabia contain 264 billion barrels and those in Iran 138 billion barrels (Canadian Association of Petroleum Producers [CAPP],

2011). Located in northeastern Alberta, the oil sands deposits cover an area larger than 140,000 square kilometers, which is larger than the U.S. state of Florida (Poveda, 2015).

Leaders established the nature of oil sands deposits, and their location renders them the costliest reserves to develop. CAPP (2011) representatives reported that capital expenditure for oil sands projects increased from $4.2 billion in 2000 to $17.2 billion in 2010. Researchers from the Canadian Energy Research Institute estimated a capital investment of $218 billion by the year 2025 (Honarvar et al., 2011). Projected future societal demand drives such investment in production capacity (RSC, 2010). The development of Alberta oil sands by organization leaders stimulates growth in the Canadian economy (Poveda, 2015). Economists expect new oil sands development will contribute $2.1 trillion to the Canadian economy by 2025, translating to $84 billion annually (Honarvar et al., 2011).

The international community has emphasized the need for sustainable development of the oil sands industry. The largest concern expressed by stakeholders is the negative impact of oil-extraction projects on the environment (Du & Vieira, 2012). Legislation promulgated by leaders of governmental institutions places challenging requirements upon organizational leaders to adopt environmental practices.

Sustainability Management Control Systems and Operational Excellence

Organizational leaders have no alternative but to embrace sustainable development principles (Metcalf & Benn, 2013). Operational excellence is critical to organization leaders to sustain business performance improvement. Such an initiative improves quality and assists leaders with improving the execution of business processes

and services. The overall enterprise strategy requires operations alignment and assists leaders with continuous improvement.

Embedded within an SMCS, and integrated across critical functions, principles grounded in operational excellence enable leaders to improve operational efficiency. The SMCS supports organizational leaders as they implement sustainability (Gond et al., 2012) and functions as an overarching framework aligning multiple improvement initiatives (Siska, 2015). Functional areas such as health, environment, safety, quality, human resources, and asset reliability are the focus of many enterprise-wide operational excellence programs. Such programs assist leaders to concentrate on improving areas such as employee empowerment, customer orientation, business process, and systems optimization. Operational excellence is critical to leaders for ongoing business improvement.

Operational excellence supports the achievement of sustained profitability by enabling organizational leaders with strategic alignment of business objectives. The concept supports leaders to ensure solid investment strategies, integrate sustainability as part of the continuous improvement culture, implement an appropriate performance measurement system that extends to include all aspects of the supply chain, and to integrate all health, safety, and environmental aspects. The SMCS links financial to nonfinancial goals and enables leaders to incorporate the perceptions of multiple stakeholders (Bocken et al., 2013). Leadership ability to measure desired performance across an enterprise is critical to the success of the SMCS and provides leaders the ability to execute the sustainability strategy across the operation. Performance measurement

crosses multiple domains and functions of organizations because it is essential for leaders to understand, analyze, improve, and sustain performance while striving for operational excellence.

An SMCS with appropriate controls assists leaders in developing risk management processes for enhancing organizational performance (Arjaliès & Mundy, 2013). Enterprise Risk Management (ERM) is an organizational leadership method of improving risk management awareness and practices that enhance operational and strategic decisions (Grace, Leverty, Phillips, & Shimpi, 2015). The implementation of an SMCS by leaders with appropriate performance metrics to assure the effectiveness and efficiency of the management controls enhances ERM. Arjaliès and Mundy (2013) described how the SMCS holds the potential to assist leaders to influence and transform organizational processes and thereby contributes to sustainable development. The SMCS supports leaders developing and implementing sustainable and purposeful strategies (Baumgartner, 2014). The SMCS provides measurable, effective, and transparent abilities to leaders to organize and control organizational behavior. Leaders employ the SMCS to communicate to employees and stakeholders the vision of the enterprise and desired behavior while ensuring the implementation of corporate sustainability objectives at the operational level.

The SMCS is a framework for structuring sustainability management control and is beneficial to leaders for systematic integration of sustainability in business processes (Eldridge, Van Iwaarden, Van der Wiele, & Williams, 2014). Sustainability management control enables leaders to facilitate continuous process improvement of environmental

and social performance and strengthens organizations by minimizing risk in environmental and social challenges. The concept of sustainability management control requires leader knowledge development (Eldridge et al., 2014) and offers the potential for producing information for internal users for decision-making processes. Limited information exists regarding to the role of SMCSs and the use of controls by leaders to support sustainability strategy implementation within organizations (Arjaliès & Mundy, 2013).

Traditional MCSs offer leaders limited incorporation of the interests of a broad range of stakeholders, other than shareholders, and minimally address social and environmental issues. Organization leaders developed sustainability MCSs to resolve this deficiency (Gond et al., 2012). Leaders employ the SMCS to influence the process of sustainability strategy development and support organizational learning (Gond et al., 2012). The SMCS provides leaders with performance indicators integrated into the sustainability framework.

Corporate Social Responsibility

The field of CSR has grown through the 1990s due to globalization and increased organizational complexity (Cho, Michelon, Patten, & Roberts, 2015). A greater number of organizational leaders are becoming socially and environmentally responsible to meet the CSR expectations of a broad array of stakeholders including investors, governments, community members, suppliers, customers, and employees (Dutta, Lawson, & Marcinko, 2013; Mobus, 2012). The CSR concept entails voluntary initiatives by leaders toward the responsible action desired by stakeholders to improve social and environmental

conditions (Klettner, Clarke, & Boersma, 2014). Related principles allow leaders to integrate social, environmental, and economic concerns into the culture, decision processes, strategy, and operations of the entire enterprise (Hahn, 2012). The field of CSR can assist leaders to facilitate reconciliation of sustainable business with global economic and financial stability through environmental and social ambitions (Costa & Menichini, 2013).

The development of an effective global marketplace can only manifest when leaders from international organizations, governments, civil society, and other stakeholders collaborate to create long-term economic and social improvements (Bardy, Drew, & Kennedy, 2012). Activities by organization leaders, related to CSR, affect corporate reputation and legitimacy (Chakrabarty & Wang, 2012; Costa & Menichini, 2013). Organizational leaders cannot afford the risk of regarded as an irresponsible member of society. Contemporary business practice required leaders to move CSR from ideology to reality (Baumgartner, 2014).

No consensus exists on a common definition for CSR (Armstrong & Green, 2013; Lin-Hi & Müller, 2013; Ratiu & Anderson, 2014); consequently, multiple and unclear definitions exist (Glavas, 2016) with various attached meanings (Isa, 2012). Isa and Reast (2014) argued CSR has evolved over time, influenced by cultural, political, and socioeconomic factors, as well as institutional frameworks unique to different countries. CSR principles employed by leaders encourage diversity and flexibility due to dynamic relationships between organizations and society (Isa, 2012). Because of its differing content and applications, no unique and precise definition ascribes the concept; hence, it

will differ among countries and organizations (Ratiu & Anderson, 2014). However, clear and consistent guidelines describing the proper adoption of CSR principles are nonexistent. Therefore, the interpretation and implementation of this responsibility widely vary (Hahn, 2012).

Isa (2012) advanced that CSR is a multidimensional construct involving activities related to industry expectations, responsibilities, regulations, and rights. Society associates the concept with political, social, legal, and ethical standards (Devinney, Schwalbach, & Williams, 2013). Principles of CSR promote materiality, transparency, responsiveness, a mutually beneficial exchange, and sensible development from leaders (Harrison & Wicks, 2014). Its basis as a stakeholder model encourages acceptance by organization leaders of contemporary businesses (Thijssens, Bollen, & Hassink, 2015) and requires leaders to establish complex relationships with stakeholders (Hahn, 2012). Du, Swaen, Lindgreen, and Sen (2013) concluded that leadership styles and stakeholder-oriented marketing affect CSR. The systematic compilation of indicators by leaders requires a structured approach to ensure a sufficient number of appropriate indicators for all fields.

Harjoto (2011) defined CSR as the collective contribution of organizational leaders in the development of people, local communities, society, and environmental conservation beyond the legal obligation of the organization. For this study, CSR is a stakeholder-oriented concept extending beyond traditional organizational boundaries and driven by an ethical understanding of organizational accountability (Isa, 2012). This definition relies on the stakeholder concept and requires leaders to integrate CSR

principles into business strategy. It emphasizes the results of CSR as mutually beneficial for organizational leaders and their stakeholders.

Stakeholders. The concept of stakeholders is integral to CSR. Freeman (1984) defined stakeholders as people, or groups of people, who can influence, or are influenced by, the accomplishment of an organization's mission. Society has become more aware of the social and environmental impact of business operations; hence, with normative pressure, CSR has increasingly become a requirement for leaders for success (Dutta et al., 2013). Societal expectations encourage organizational leaders to invest in socially responsible investment opportunities, resulting in increased economic market value for organizations (Smith, 2011). Stakeholders have interests beyond wealth maximization and not only create additional investment opportunities within socially responsible investments, but also create economic value for the organizations (Hill & Seabrook, 2013). Internal and external stakeholders of companies within the oil sands industry expect the development and delivery of cost-efficient products and services while maintaining sustainability and profitability (Poveda, 2015).

The rapidly changing and highly diverse operating environment intensifies the exposure of organization leaders to global stakeholders (Hahn, 2012). The identification and engagement of stakeholders by leaders is a primary aspect of theory and research on CSR (Harrison & Wicks, 2014). Stakeholder identification and the manifestation of environmental and social responsibility by aligning business activities to stakeholder expectations are critical for organizational leaders (Delgado-Ceballos, Aragón-Correa, Ortiz-de-Mandojana, & Rueda-Manzanares, 2012; Hill & Seabrook, 2013). Baumann-

Pauly and Scherer (2013) emphasized stakeholder interaction as a critical requirement toward the effectiveness of CSR and legitimacy. The implementation of an integrated management control system can meet this requirement.

Economic health. Organizational complexity necessitates that leaders integrate CSR with corporate strategy (Erhemjamts, Li, & Venkateswaran, 2013). The principles of CSR, coupled with improved business processes and decisions, will enable leaders to facilitate reduced operating costs, operational risks, and value chain integration (Smith, 2011). The field of CSR offers leaders opportunities for psychosocial risk management within the workplace (Glavas, 2016). The promotion of employee wellness addresses internal social enhancement (Glavas & Kelley, 2014). Organizational leaders attract talented employees, increase motivation, attachment, and retention (Lee, Park, & Lee, 2013). To manage risks, leaders employ systematically planned activities integrated into the SMCS.

Padgett and Galan (2010) discovered that intense research and development has positive and significant effects on CSR within manufacturing industries, while in nonmanufacturing industries, no significant impact is evident. Organizational leaders with research and development of higher intensity devote more resources to CSR initiatives (Padgett & Galan, 2010). Research and development result in people knowledge enhancement, which in turn, manifests as product and process improvements, in support of CSR processes and products.

Researchers have established a positive correlation between CSR and financial performance (Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012; Martínez-Ferrero & Frías-

Aceituno, 2015). Leader employed CSR activities have a positive effect on the value and financial performance of organizations (Ameer & Othman, 2012; Armstrong & Green, 2013). Mulyadi and Anwar (2012) concluded that no relationship, or weak relationship, exists between CSR and firm value or profitability. Leaders' ability to manage industry characteristics affects the relationship between CSR and financial performance (Ameer & Othman, 2012). Regulations (Frynas, 2012; James, 2015), the economic health of the industry, and stakeholder pressure (Perez-Batres et al., 2012) can all affect CSR.

Regulations. Corporate governance and public initiatives encourage organizational leaders to enhance ethical business practice (Chan, Watson, & Woodliff, 2014). Regulations enacted by government officials are important mechanisms in promoting increased transparency by leaders in the disclosure of CSR (Hamilton & Tschopp, 2012). Increased regulation improves CSR outcomes (Frynas, 2012). Devinney et al. (2013) posited management control systems resonate well with government representatives and preferred by leaders of corporations for self-regulation activities. Proactive legislation and worker involvement must support the business case (Glavas & Kelley, 2014). Governmental requirements affect CSR practice and result in variance with CSR diffusion and disclosure (Hamilton & Tschopp, 2012). Regulatory requirements encourage leaders to enhance CSR disclosure and outcomes in industries with greater visibility to stakeholders (Chan et al., 2014).

Implementation. The integration of CSR with business activities has become imperative for leaders to manage operations (Baumgartner, 2014). The concept integrates at the structural and procedural level (Baumann-Pauly & Scherer, 2013). However,

effective implementation and management of CSR remains a challenge for all business leaders and is both resource and time intensive (Baumann-Pauly, Wickert, Spence, & Scherer, 2013). Such responsibility by leaders has a direct impact on improving operational performance (Parast & Adams, 2012).

Leadership compliance with relevant statutory and legal standards is the first step in the promotion of CSR (Arjaliès & Mundy, 2013), followed by an evaluation of current strategies and processes, solicited input from external stakeholders, and the integration of CSR practice at all levels of business strategy. The structure and strategy of CSR implementation associated with the size and type of the respective organization (Baumann-Pauly et al., 2013). Strategic CSR initiatives may lead to competitive advantage when leaders integrate organization vision of CSR, managerial competencies, and the social benefits (Calabrese, Costa, Menichini, Rosati, & Sanfelice, 2013). Leaders from larger multinational organizations tend to promote external communication and declare more sustainable development policies (Baumann-Pauly et al., 2013).

Disclosure. Voluntary disclosure by organizational leaders of information related to CSR is improving due to increased awareness, influence, and the interest of stakeholders in social and environmental issues (Chauvey, Giordano-Spring, Cho, & Patten, 2015). Stakeholder pressure on organizational leaders regarding social, environmental, and ethical issues increases the importance of CSR disclosure (Hamilton & Tschopp, 2012; Thijssens et al., 2015). Consequently, leaders from many large companies around the world have adopted voluntary CSR reporting (Hamilton & Tschopp, 2012). However, annual reports might not disclose a sufficient amount of CSR

information to investors and other stakeholders to allow adequate assessment of the organization (Chauvey et al., 2015).

Leaders use CSR reporting as a strategic tool to disclose related activities to stakeholders and the society within which the organization conduct business (Cho, Guidry, Hageman, & Patten, 2012). Reports enable leaders to enhance the reputation and credibility of organizations by communicating positive social and environmental performance (Cho et al., 2012). Disclosure reports of CSR activities afford stakeholders the opportunity to assess whether or not the activities and actual performance of the organization align with their interests. Such reporting can ensure leaders achieve a "high level" of corporate transparency, integrity, and accountability while enabling to engage with stakeholders. Baumgartner (2014) concluded that multiple factors affect CSR behavior. Increased attention from members of the media influences the strengths of CSR but weaknesses is not sensitive to media attention (Zyglidopoulos, Andreas, Georgiadis, Carroll, & Siegel, 2012).

Annual sustainability reports attract critique from society for nondisclosure of environmental and social performance (Michelon, Pilonato, & Ricceri, 2015). Organizational leaders in environmentally sensitive industries employ CSR reporting more than leaders from other industry categories (Chan et al., 2014; Kilian & Hennigs, 2014). Chauvey et al. (2015) concluded organizational leaders use CSR reporting strategically, dismissing disclosure requirements, and concealing negative CSR events.

Leaders use the principles of CSR to set benchmarks corporation managers can use for measurement and monitoring over time. Boiral and Henri (2015) emphasized the

systematic compilation of performance indicators by following a critical approach. An appropriate number of indicators must exist for all fields. Inadequate competence and experience in organizational leadership may lead to the inappropriate assignment of performance indicators. Measurement and reporting assist leaders to create change transparency and communicates CSR strategies and practices to the organization stakeholders (Menichini & Rosati, 2014). North American organizational leaders regard responding to the institutional pressure of stakeholder sustainability requirements as integral to risk management (Torugsa, O'Donohue, & Hecker, 2013). Consistent measurement frameworks are lacking to enable leaders to assess and compare CSR performance and progress (Skaar & Fet, 2012).

Triple bottom line. The sustainability concept incorporates economic, social, and environmental obligations of organizational leaders, which all require performance measurement (Baumgartner, 2014). The term *triple bottom line* (TBL) encompasses this holistic evaluation of overall organization performance by leaders, which does not consider shareholders solely but all stakeholders of the enterprise (Harrison & Wicks, 2014). Leadership consideration of the TBL must be robust, considering the indirect costs of resources and the societal impact cost of services and products.

The maximization of shareholder value remains paramount when determining the TBL. Organizational leaders strive to achieve goals beyond simply the maximization of profit. The majority of consistently successful company leaders maximize shareholder value and profits, motivated by factors other than profit.

The findings of empirical and theoretical researchers on the effects of environmental performance have suggested the benefits of success in this area are larger than the costs (Torugsa et al., 2013). Investment in CSR initiatives does not necessarily lead to lower profits. Researchers have established a positive link between selected categories of corporate social performance and financial performance (Ameer & Othman, 2012). This development contributes to the evidence of a positive relationship between CSR and profitability (Baird, Geylani, & Roberts, 2012). Martínez-Ferrero and Frías-Aceituno (2015) evaluated the financial performance of 1960 multinational nonfinancial listed companies from 25 countries. The findings of the researchers were consistent with those of other studies and confirmed improved profitability among the results of CSR (Martínez-Ferrero & Frías-Aceituno, 2015).

Global reporting initiative. Organizational leaders and shareholders have recognized that conventional financial reports and accounting methods are inadequate in terms of providing assurance related to intangible assets and nonfinancial considerations (Michelon et al., 2015). Multiple published recommendations and guidelines exist for CSR and sustainability reporting. Representatives of the Global Reporting Initiative (GRI) recommended a system of sustainability reporting that is becoming the accepted standard for public companies (Lin, Chang, & Chang, 2014). The purpose of these reporting guidelines was to support organizational leaders in creating complete and transparent sustainability reports (Menichini & Rosati, 2014). The GRI representatives also provided an internationally accepted disclosure framework promoting comparable sustainability reporting. The elements of this system of reporting focus on stakeholder

inclusiveness, materiality, sustainability context, and the completeness of information (Lin et al., 2014). The initiative assisted organizational leaders in formulating reporting practice, but not directly enhancing sustainability performance.

The GRI representatives recommended the comprehensive fourth set of reporting guidelines in April 2013, known as the G4 reporting framework, which contained principles and guidance toward content definition and performance indicators, as well as established quality standards for sustainability and CSR reporting (Lin et al., 2014). The guidelines specified standard contents for sustainability reporting related to the organization profile, governance structures, business processes, and management of sustainability issues such as goals and environmental, social, and economic performance indicators. Leaders of companies across the globe are increasingly adopting GRI standards and issuing sustainability reports (Menichini & Rosati, 2014). Christofi, Christofi, and Sisaye (2012) recommended further standardization and enforcement of sustainability reporting.

Sustainable Development

Representatives of the World Commission on Economic Development, also known as the Brundtland Commission, defined sustainable development as development that serves the present societal requirements, without negatively affecting the ability of future societies to meet their personal needs (WCED, 1987, p. 43). Organizational leaders have used the term to refer to their combined social, economic, and environmental performance. The principles of the sustainability concept challenged the traditional way

of leaders conducting business and altered their perception of the complex adaptive business environment (Metcalf & Benn, 2013).

Leaders focused on sustainable development are responsive to environmental and societal pressures while capable of sustaining profitable and competitive organizations (Escobar & Vredenburg, 2011). The term *sustainability* expresses the need for society to live in the present by means that do not endanger the future. Sustainable development requires the simultaneous adoption of economic, environmental, and social equity values by organizational leaders (Escobar & Vredenburg, 2011). Societal awareness of the environmental and safety consequences of business operations has resulted in increased demand for organizational leaders to reflect social and environmental responsibility (Poveda, 2015).

Sustainable development is largely a stakeholder function rather than a broad social issue (Escobar & Vredenburg, 2011). Stakeholders influence leaders (Freeman, 1984) to pursue such development by incorporating social, environmental, and economic responsibility considerations into operational strategies (Phan & Baird, 2015). The pressure to address sustainability issues originates from various sources such as representatives of government regulators, officials of nongovernmental organizations who interrupt business practice, unexpected resource shortages, investors, customers who demand sustainability offerings or a sustainability-friendly business, and competitors whose sustainability innovation alters industry conditions (Lozano, 2015). Opportunities leaders created with sustainability initiatives include (a) significant operating cost savings, (b) revenue growth, (c) brand integrity, and (d) employee engagement (Kiron,

Kruschwitz, Haanaes, & Von Streng Velken, 2012). Leaders integrate corporate sustainability activities and strategies into organizational management systems (Stocchetti, 2012). Such sustainability has increased in importance for both organizational theory and practice; however, challenges remain in leader adoption of corporate sustainability practice (Linnenluecke & Griffiths, 2010).

Governance and assessment. Baumgartner (2014) emphasized the importance of an appropriate corporate governance structure to support the TBL in sustainability. Leaders employ governance systems to ensure collaboration between industry types (Chan et al., 2014). Organizational leaders review regulatory compliance to determine the extent to which government regulations will raise future standards for compliance, thus reducing the risk of regulatory disruption to business operations. *Incremental mitigation* refers to the impact of leader employed improvement actions and initiatives and typically includes reduction of emissions and waste, recycling programs, conservation of scarce resources and energy, greener consumer products, green image-related marketing, and public relations. Waas et al. (2014) emphasized the importance of sustainability assessment for interpretation and influence of sustainability challenges. Escobar and Vredenburg (2011) reported that sustainability pressures manifest at the national rather than international level. The findings of their study revealed a lack of transparent regulation and enforcement mechanisms exists for leaders within multinational oil companies.

Leadership. To create a culture of sustainability within an association, enterprise leaders must provide visionary leadership, create alignment, and recognize

interdependence among stakeholders (Tideman, Arts, & Zandee, 2013). Leadership toward stakeholder management promotes sustainability (Gibson, 2012). Leaders encounter challenges when implementing leadership initiatives toward a sustainability-focused organizational culture. Leaders must focus on the conceptualization of sustainability and introduction of the concept into the organization (Galpin & Whittington, 2012). Multiple factors may affect sustainability leadership in organizations, but effective leadership requires six competencies toward successful corporate sustainability (a) collaborating, (b) delivering results, (c) influencing, (d) anticipating long-term trends, (e) commercial awareness, and (f) evaluating long-term trends (Tideman et al., 2013).

Visionary leaders create a sustainability-oriented mindset within an organization while navigating other organizational challenges. To leverage information, knowledge, and learning throughout the organization requires collaborative leadership and extraordinary abilities (Metcalf & Benn, 2013). Organizational complexity necessitates leaders have an understanding of change management and the organizational culture, as well as their effects on work processes through to the standing of the enterprise within its industry. To gain competitive advantage, organizational leaders must understand the steps needed to achieve success and clearly communicate the related expectations.

Tideman et al. (2013) posited that sustainable transformation and development must be integral to the mindset of leaders and all organization stakeholders; otherwise, sustainability activities will not affect the core business and the likelihood of failure is eminent. Leaders encounter internal and external challenges when implementing

initiatives to create a sustainable organization culture. Lozano (2015) identified five drivers, being (a) organizational leadership, (b) the business case, (c) reputation, (d) customer demands and expectations, and (e) regulation and legislation.

Achieving entrepreneurial leadership within a sustainable culture enables leaders to create and maintain a competitive advantage. Metcalf and Benn (2013) described sustainable leaders as individuals extremely concerned with environmental and societal issues, sustainability-oriented, and interested in supporting initiatives and forming businesses to support sustainability. Tideman et al. (2013) identified the qualities and skills required of leadership for integrating sustainability into an organization. These included the ability of leaders to adopt new work methods, understand the role of stakeholders, build internal and external partnerships through strategic networks and alliances, develop a strategic view of the business environment, and respect diversity.

Business plan. Organization leaders recognize the limited resources they depend on for survival. Such resources include economic capital and those environmental and social in nature. A combined approach to managing organizational resources, in the form of a sustainable development strategy, will enable leaders to improve the future viability of the enterprise and enhance its relationships with various stakeholders. The challenge is for leaders aligning sustainability with enterprise strategy, aligning business objectives with a sustainability agenda, and establishing meaningful and relevant sustainability targets and metrics (Baumgartner, 2014).

New technologies and business models are constantly emerging to support leaders with sustainability initiatives. Research and technology development are contributing to

assist organization leaders with the increasing economic feasibility of sustainability initiatives supporting products and processes (Padgett & Galan, 2010). The development of innovative technologies and optimized business processes by leaders create a competitive advantage for the respective organization (Padgett & Galan, 2010). Reduced waste and lower labor costs result in higher firm productivity and afford business leaders newer opportunities toward such advantage within their respective industries (Sun & Stuebs, 2013).

Leaders can apply the principles of life-cycle management to optimize their supply chains. Morali and Searcy (2013) reported organizational leaders are accepting a holistic life-cycle approach to manage global production and consumption systems. Application of the prevention life-cycle mindset places emphasis on optimization of the production system and supports sustainable development and management. Life-cycle management assists organizational leaders to prioritize issues of sustainability. Morali and Searcy (2013) emphasized this approach toward sustainable development to optimize the system.

Petersen and Vredenburg (2009) identified risk management as a key strategy that explains the link between sustainable initiatives and organizational investor preferences. Soin and Collier (2013) argued pursuing risk management in sustainability would enhance reputation, promote economic stability of the customer base, and increase competitive advantage. Hansen and Schaltegger (2016) recommended that organizational leaders worked within the context of a framework for sustainability performance and integrated into strategic planning and operations management. The recommended

performance framework would incorporate economic, environmental, and ethical performance indicators while combining leading, lagging, and business indicators (Hansen & Schaltegger, 2016). Baumgartner (2014) also recommended a sustainability management system that is holistic and integrated environmental, social, and economic elements of the strategic sustainability strategy.

Measurement and reporting. Reporting sustainability performance affords leaders the opportunity to communicate to a broad spectrum of stakeholders in an efficient manner. Such reporting has been emerging globally since the 1990s and leaders from the majority of large organizations issue those voluntary reports (Lin et al., 2014). Societal expectations of organizations have changed to include environmental and societal performance (De Lange, Busch, & Delgado-Ceballos, 2012). Sustainability reports assist leaders to disclose the strategically significant, nonfinancial organizational performance required for a balanced assessment of enterprise performance. Transparency enables leaders to create an effective and efficient vehicle to maintain stakeholder involvement in, and awareness of, the progress of the sustainability mission and strategy of the organization.

Organizational leaders require an enhanced understanding of the specific issues, processes, and best practices for the planning, conceptualization, and implementation of sustainability performance measurement for control and improvement. Escobar and Vredenburg (2011) bemoaned the lack of a common format and rules for calculating or disclosing elements of information in sustainability reporting. Leaders require an understanding of the implications of operational context and stakeholder influence toward

sustainability strategy formation and organizational performance measurement (Manetti & Toccafondi, 2012). Internal and external stakeholders are an important consideration (Lin et al., 2014). Industry regulatory frameworks and internal reporting requirements influence organizational reporting and the control measures required for performance measurement.

The challenges encountered by organizational leaders require a shift of priorities toward integrated performance assessment models, incorporating measures conducive to multiple stakeholders and multiple responsibilities. Eldridge et al. (2014) emphasized the importance of stakeholder identification and expectations because these individuals may react differently to sustainability performance. Before performance measurement, organizational leaders must identify multiple stakeholders and their expectations (Hansen & Schaltegger, 2016). Measures of sustainability performance must enable leaders to capture social, environmental, and economic performance for sustainability initiatives (Hansen & Schaltegger, 2016). Measures to consider are organizational, global, societal, political, external, leadership, and industry contexts (Robinson & Nikolic, 2014). Waas eta l. (2014) stressed the importance of leaders measuring sustainability, which is critical to the identification of variables related to sustainable development and the collection of data needed to analyze through technically appropriate methods.

For effective organizational strategy, various management systems (e.g., product costing, capital budgeting, and information and performance evaluation) require design and alignment. For sustainability performance, all aspects of the organization, the business units, facilities, teams, managers, and employees necessitate measurement.

Performance indicators need development to enable leaders to monitor and assess the value creation of sustainability strategies and actions. Corporate sustainability reports and the reporting process itself may support leaders as catalysts for change toward improved sustainability performance (Ameer & Othman, 2012).

The conceptualization of sustainability performance metrics by leaders for management control and improvement involves consideration of factors influencing the performance measurement paradigm. Unlike financial reporting, no consensus exists for reporting requirements; leaders from each industry encounter unique challenges significant to the operations of their businesses (Herbohn et al., 2014). Senior leadership considers influences and issues derivative of stakeholder influence as both directly, and indirectly, influencing the measurement process. Performance measurement enables leaders to create accountability within the organization, as well as transparency with external stakeholders. Reporting assist leaders to reflect the reality of the sustainability efforts and provides direction for future related initiatives.

Performance measurement is contextual to the activity performed, the organization leaders performing it, and the environment within which performed. Measurement boundaries and comparability between industries create significant measurement challenges for leaders. Sustainability involves changes in employee attitudes and organizational culture, in addition to quantitative economic and environmental improvements. The development of control measures and reporting methodologies to transcend qualitative factors are challenging, particularly within

regulatory and industry frameworks. Qualitative measurement can also be a valid technique when evaluating sustainability performance.

Lackmann, Ernstberger, and Stich (2012) established that increased reliability in terms of sustainability affects the market value of organizations and benefit those perceived a high investment risk. Companies issuing quality sustainability reports experience significantly more positive market reaction than those issuing lower quality reports. High-quality reports are meaningful to organizational leaders seeking increased reputation value (Cho et al., 2012).

Hansen and Schaltegger (2016) emphasized the quality and relevance of sustainability performance measures for informed decision making. For effectiveness, performance measures assist leaders to reflect causal linkages identifying the impact of sustainability performance. The successful development of organizational sustainability requires that leaders measure against defined objectives and employ meaningful reporting (James, 2015). The within-industry comparison of sustainability performance reports is challenging because of a lack of assurance, inconsistent approaches to materiality reporting, lack of standards, and lack of a standard reporting format (Bocken et al., 2013). As a result, the information reported is not strategically useful. Hansen and Schaltegger (2016) posited the measurement of sustainability is a complex problem and emphasized the importance of defining sustainability from within a corporate context, understanding the internal and external environment of the respective organization and establishing goals and objectives for a sustainability performance system.

Culture. Recent literature emphasizes the principles of sustainable development and the requirement for organizational leaders to pursue effective sustainability practice (Baumgartner, 2014; Klettner et al., 2014; Metcalf & Benn, 2013). Considerable uncertainty remains as to what constitutes a sustainability-oriented organizational culture. Gaining a clearer understanding of how leaders facilitate the adoption of corporate sustainability practice require more research (Linnenluecke & Griffiths, 2010). Improved employee engagement and effectiveness during the pursuit of sustainability strategies results in increased labor performance (Delmas & Pekovic, 2013). The learning process enables organizational leaders to meet the challenges of TBL integration (Rahardjo, 2013).

For leaders to develop a culture of sustainability requires an understanding of the expectations of organization stakeholders. Organization leaders must identify and interact with their stakeholders to create awareness. They must discern sustainability within the context of the enterprise and be aware of its set of core values when creating a culture of sustainability. Leadership understanding of the core values of the organization, informed by the wants and needs of all stakeholders, the mission of the enterprise, and its goals and objectives, will allow evaluation of the organization. Leaders must encourage voluntary cultural and managerial change to create a strong foundation for sustainable development. Linnenluecke and Griffiths (2010) suggested the publication of sustainability reports and the integration of sustainability measures in employee training and performance evaluations as supportive of positive change throughout the culture of the enterprise.

Collaboration. Sustainable development requires collaboration among primary stakeholders such as representatives from government, nongovernmental organizations, and society in general (Baumgartner, 2014). To collaborate with business leaders to address complex sustainable development problems is beneficial for sectors of society. Hahn, Pinkse, Preuss, and Figge (2015) promoted collaboration and integration among organizational leaders beyond those aspects of business providing economic benefit into CSR and global sustainability concepts. These researchers identified collaboration as a potential approach to the complex issues leaders encounter. Collaboration for sustainability efforts affects relationships between representatives of businesses, nongovernmental organizations, and governments because of the complexity inherent to the collaborative activities.

Benefits. With the emphasis on self-regulation, organizational leaders are accepting voluntarily and publicly the principles of CSR and sustainability. The number of organization leaders issuing social reports is increasing due to their success as reputation risk management tools (Cho et al., 2012). Organizational leaders have sustainability reports voluntarily assured to improve the credibility and transparency of the disclosed information (Peters & Romi, 2015). Those leaders for whom it is important to reduce agency costs and increase user confidence in the information reported will opt to have reports assured. However, the lack of an agreed-upon set of standards reduces the comparability of assurance statements.

Physical Asset Management

Leaders of asset-intensive organizations are dependent upon complex assets and manufacturing technologies for their operations, which have a significant influence on organizational performance (Okoh & Haugen, 2013). Business performance depends on the availability, maintenance, and deployment of physical assets. Increased global competitiveness requires the manufacturing assets to operate continuously for longer periods at higher rates than ever before (El-Akruti et al., 2013). Leaders of asset-intensive organizations are seeking opportunities to reduce the costs of maintaining these assets, to manage asset performance to support the competitive strategy, to be compliant with regulatory requirements, and to improve the performance and extend the life of physical assets (El-Akruti & Dwight, 2013).

The strategic management of physical assets remains a significant improvement opportunity for leaders and is increasing in sophistication and complexity (Ossai, Boswell, & Davies, 2014). The objective of PAM is to assist leaders to integrate management processes to enhance decision-making and the optimization of asset utilization, leading to improved organizational efficiency (El-Akruti & Dwight, 2013). This, in turn, will result in increased value delivered by the physical assets employed in the process, production, and manufacturing industries. Improved productivity, reliability, and sustainability enable leaders to enhance product quality, process safety, and profitability (Narayan, 2012). To achieve optimal return on investment in capital assets, organizational leaders require improvement in their asset management maturity. Competitive pressures force leaders of asset-intensive organizations to reduce the total

cost of ownership, improve manufacturing performance, and enhance effectiveness by optimizing their asset management operations (Ossai et al., 2014).

The PAM concept has developed from maintenance management and provides leaders a holistic approach to managing the total life cycle of physical assets. The maintenance function is critical to organization leaders for improving system availability, safety, product quality, and sustainable performance (Ossai et al., 2014). Holistic asset management by leaders fosters knowledge creation and enhances managers' ability to implement strategic planning.

Organizational leaders have realized a broad spectrum of business processes governs the life cycle and use of physical assets (El-Akruti & Dwight, 2013). The new asset management framework encourages leaders to apply a holistic, multidisciplinary approach to the management of such assets, establishing a firm foundation for overall organizational success. This holistic scope has led to practitioners using a broad range of terms about asset management. Leaders seek to develop integrated asset management frameworks and bodies of knowledge, incorporating multiple disciplines into one overall process.

PAM frameworks enable leaders to consider output, compliance, and risk dimensions. The performance optimization of the practices and processes of PAM by leaders will contribute to the profitability and success of asset-intensive organizations (El-Akruti et al., 2013). The reliability and maintainability of physical assets are essential for operational excellence and efficiency (Narayan, 2012). High reliability of physical production assets contributes to the profitability and sustainability of manufacturing

organizations (Narayan, 2012). The efficient utilization of capital assets by leaders is the source of revenue generation and profitability. Effective use of physical assets by organization leaders is critical, and effective decision-making related to the management of the asset life cycle is required (El-Akruti & Dwight, 2013). Organizational leaders are therefore required to maximize the productive life cycles of their assets by implementing optimal PAM regimes.

Optimized and integrated PAM activities represent the most effective, sustainable combination of asset care, and leaders of asset-centered organizations have achieved significant quality and productivity improvements (El-Akruti et al., 2013). To embrace broader sustainability principles, leaders of industrial organizations enhance business processes through improvement initiatives. CSR is critical for leaders of oil sands organizations to maintain their license to operate due to industry regulations (Poveda, 2015). Baumgartner (2014) confirmed the requirement to link PAM to sustainability principles. The development of responsible PAM by leaders will result in improved reliability and productivity, as well as enhanced process safety, profitability, and sustainability (Nayaran, 2012).

PAM is evolving as a comprehensive methodology to support the delivery of improvements in financial, social, and environmental performance. Leaders implement effective regimes and develop business processes to embrace sustainability principles. This enables organizational leaders to make sustainable asset management decisions to balance economic, environmental, and social outcomes (Baumgartner, 2014). Sustainable

business management by leaders is a prerequisite for long-term profitability and competitive advantage.

Optimal operation and maintenance of assets require leaders to employ responsible PAM regimes, which, supports CSR by improved reliability, sustainability, and productivity by reducing process safety risk (Narayan, 2012). Operating within an increasingly competitive and globalized economy, organizational leaders anticipate change toward CSR and sustainability on a continuous basis (Rahardjo, 2013). "Higher levels" of human activity, created by increased global mechanization and the social development of communities, causes the creation of complex sustainability risk (Poveda, 2015). Leaders of asset-intensive organizations must develop and adopt a holistic PAM organizational culture when moving toward corporate sustainability. They must undergo significant cultural change and transformation as they respond to challenges linked to environmental and social change.

Organizational leaders encounter increased competition because of globalization and the rapid development of new technology. They are required to enhance their organizational efficiency to create value for stakeholders, optimize process safety, and cost efficiency of their operations on a continual basis (Narayan, 2012). Organizational complexity necessitates leaders integrate CSR with the business strategy (Erhemjamts et al., 2013). This integration enables leaders to facilitate the reduction of operating costs, value chain integration, and operational risk (Smith, 2011). The development of PAM by leaders results in changing routines and business process to achieve higher levels of sustainability.

Asset integrity. The integration of sustainable development and the practice of asset integrity management (AIM) is complex. Leaders acting from a sustainability performance perspective identify and prioritize asset performance through risk-based criteria and data assessment, resulting in flexibility with the management of assets (Bharadwaj, Silberschmidt, & Wintle, 2012). Sustainability in AIM does not equate to indefinitely exploiting an asset. Asset integrity enables leaders to meet societal needs by producing products at optimal cost, safely, and with minimum impact on the environment.

AIM assists leaders to focus on industries with hazardous operations such as oil and gas. Such management ensures productive utilization of operational assets to avoid production upsets and damage to the environment. Effective AIM provides controls to leaders enabling people, systems, processes, and resources to function with operational discipline, assuring asset integrity and asset performance when required over their entire life cycle. The asset integrity of a production facility is a manifestation of its technical condition and its capability to perform expected functions (Ratnayake & Markeset, 2010). Organizational asset integrity is dependent upon the skills of personnel, and the ability of management to assure optimal condition and capability over time.

Asset integrity assurance requires of leaders the availability of quality data, as well as frameworks, models, tools, and methods, to perform effective analyses and assist in decision-making processes (Ratnayake & Markeset, 2010). The integrity of assets is dependent upon the organization stakeholders as well as the ability and capability of management to define, implement, and execute operational and maintenance strategies

meeting the needs of the enterprise. Organization leaders measure the integrity of physical assets regarding the performance of human assets. Measuring the integrity performance of experts requires a comprehensive methodology.

The aim of asset integrity is to enable leaders to ensure the effective functionality of physical assets while preserving life and the environment (Ratnayake, 2010). Such integrity, in turn, ensures stable operational processes and minimizes risk to personnel. Asset integrity consists of three segments: design integrity, operational integrity, and technical integrity (Ratnayake, 2010). Design integrity enables leaders to assure safe operations through the proper design of facilities. A well-defined asset integrity framework provides leaders assurance that facility designs comply with regulatory standards and meet specified operating requirements.

Operational integrity assists leaders to focus on maintaining the operational status of assets and requires appropriate knowledge, experience, staff levels, competence, and decision-making data to operate the facility as intended through its life cycle. Technical integrity equates to keeping product within the system. This entails appropriate work processes for the maintenance and inspection systems, as well as effective data management to keep the operations available. The concept of AIM thus consists of design integrity management, operational integrity management, and technical integrity management (Ratnayake, 2010).

Opportunities exist for leaders to reduce the risk of major incidents through proper implementation of AIM systems, which enhance process safety within high-hazard industries. Leaders of oil and gas organizations develop operational excellence

through the integration of AIM philosophies to reduce operational risk. The consequence of integrity failures and the associated publicity of catastrophic events have engaged stakeholders, regulators, and the public in an ongoing debate over managing the integrity of physical assets. The process of AIM enables leaders to define and rank elements affecting safety, environment, and production. Integrated with multiple decision-making approaches, the AIM processes become business critical. The process assists leaders to facilitate compliance with corporate and regulatory standards by identifying critical items and managing their performance in a documented manner (Ratnayake, 2010). Regular leadership assessment of the core processes and controls of AIM ensures the quality and compliance of performance related to sustainability and allows the prioritization of business goals within sustainability requirements.

Performance Measurement

Organization leaders routinely assess the success of organizational adaptation to a changing environment by measuring performance. System performance management relies on long-term goals, and performance targets require short-term measurement, as components of a control system. Developed performance indicators assist leaders to monitor and assess the value creation of operational excellence strategies and activities. Small-scale interviewing of personnel begins to establish employee attitudes toward CSR and sustainability reporting, internal reporting processes, and the impact of reporting on organizational change.

Searcy (2012) emphasized key performance indicators as an essential facet of a robust and comprehensive SMCS. Leaders are relying on proactive measurement against

targets for health, safety and environmental management (Hansen & Schaltegger, 2016). Metrics are performance measures of activities or programs and assists leaders to guide the health and well-being of organizations. The metrics support leaders with organizational strategy and objectives. Process-safety performance indicators support the SMCS. These indicators must measure the effectiveness and efficiency of the management control the SMCS relies on and enables leaders to identify target areas for continuous improvement. Appropriate performance metrics are essential to leaders for the successful integration of the sustainability strategy into the SMCS.

Transition and Summary

In Section 1 of this study, I presented a discussion of the need to explore what key factors affect the design, development, and implementation of sustainability performance metrics for new or existing SMCSs. The section opened with a description of the specific problem under study. Section 1 also includes a description of the study's purpose, method and design, potential significance, and literature review. The review of the academic and professional literature demonstrated the gap in the information on sustainability, CSR, and performance metrics for SMCSs. Section 2 contains details about the method, design, and participants involved in the study. Section 2 also includes details of the project such as my role as the researcher, the selection of participants, data collection, population and sampling, and research method and design.

Section 2: The Project

This section describes the role of the researcher, selection of participants, the appropriateness of the research methodology, and justification of the research design. I explained the population selection process, the research instrument employed, procedures for data collection, and data analysis. A key segment of the research was observations and interview questions, which appear in the Instrument section.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics. The targeted population comprised oil sands company leaders from an Alberta, Canada, organization who was experienced with sustainability and SMCS performance metrics. The findings of this study may have a positive effect on social change by establishing a basis for new information regarding the effective performance metrics for SMCSs. This includes (a) metric identification, (b) metric conceptualization to identify threats toward mitigating risk, and (c) the effect of SMCS metrics on sustainability performance. Increased information on what key issues affect sustainability controls and the conceptualization of performance measurement may influence the development of business processes that successfully integrate the SMCS with the organization's sustainability strategy, improve risk management practices, and enhance organizational effectiveness. Understanding opportunities to integrate the concept of sustainable development into management controls and to achieve economic growth with

the assurance of environmental protection may result in enhanced employee health and safety and thereby improve sustainable development.

Role of the Researcher

As the researcher in the study, I collected and presented the data drawn from the study sample via an organized approach (Rowley, 2012). I planned and designed the research study, obtained institutional approval, and obtained permissions from leaders of the organization researched. My responsibility was to ensure collected data taken from participants were trustworthy and valid and to convey the findings of the study in a concise and objective manner (Kemparaj & Chavan, 2013). I am familiar with the fields of asset management and operational excellence and reside within geographical location of the study sites, which encouraged participants to share their perspectives on performance metric conceptualization and efficacy within their organizations.

The authors of the *Belmont Report* (1979) identified three principles in ethical research conduct with human participants: respect for persons, beneficence, and justice. These principles were part of the study design and were followed unequivocally. I had received Institutional Review Board (IRB) permission before the interviews commenced. I described to each study participant the confidential nature of the study and received each person's consent before the start of each interview. This study did not contain the identity of the participants to protect their confidentiality. I communicated the purpose of the study to ensure the participants understood the risks and potential benefits of participating in the research. In this study, I did not include vulnerable populations such as children and prisoners.

I "field tested" the interview questions before the primary study, which should also assure this study's validity and reliability. I documented the protocol followed (Turner, 2010). The investigation required a disciplined process, and I followed a systematic approach toward sampling, interpretation, and data collection to reduce bias and improve efficiency (Chenail, 2011). The quality of the information collected was dependent upon my interviewing skills as the researcher. I prompted participants by asking open-ended questions. In conversation, I encouraged clarity and completeness and verified my understanding without influencing the response or outcome.

Participants

A purposive sample of 20 oil sands company leaders from an Alberta-based organization participated in the study. Mason (2010) posited that a minimum 20 participants is adequate for a qualitative study to establish generalized patterns. Eligibility to participate in the study required that participants be experienced with sustainability and the SMCS performance metrics. The purposive sampling technique enabled me to recruit participants with the essential experience to explore information of the design, development, and integration of performance metrics for use to plan, control, and improve a Canadian oil sands organization's SMCS (Konig & Waistell, 2012). I documented the interview protocol and made it available for repetition in future studies.

Upon approval of the study by representatives of the Walden University IRB (IRB # 10-29-14-0253275), participant recruitment began. I obtained written permission from the organizational leadership team to conduct research. With visits to the sites, I informed

organizational leaders about the purpose of the study in an attempt to achieve "high levels" of participation.

An efficient research process depends on the interviewer's ability to establish working relationships, build mutual understanding regarding the purpose of the interview, and engage interviewees to disclose information (Roulston, 2014). Before the onset of the proposed research, I informed potential participants of the study in writing about the proposed research topic and asked them to complete an informed consent form to participate. As described in the subsection Ethical Research, I assured participants of strict information confidentiality and no disclosure of their identities (Rowley, 2012). To establish effective working relationships, I was pragmatic with constraints and limitations such as the location, length, and time of the interviews (Rowley, 2012).

Research Method and Design

Method

The research study followed a qualitative research strategy of inquiry. Three primary methodologies are available to researchers: quantitative, qualitative, and mixed method (Hoe & Hoare, 2012). Researchers exploring experiences to gain a clearer understanding of social dynamics require a qualitative rather than quantitative or mixed method approach (Rowley, 2012). Qualitative research is a naturalistic method of inquiry characterized by an inductive process of analysis. Researchers employ qualitative research to uncover information and meaning from the perspectives of the participants (Bailey, 2014).

The value of qualitative research is the ability it affords researchers to enter the world of the participants to explore their perspectives and experiences toward gaining a clearer understanding of a phenomenon that will contribute to the development of empirical knowledge (Thomas & Magilvy, 2011). Increased understanding of a research problem requires qualitative research, in the absence of identified factors related to a specified phenomenon. The purpose statement of the study related to the social constructivist worldview, which focused on the creation of understanding through social and historical construction methods. Although this qualitative approach requires in-depth interview and data analysis, it was the optimal methodology to assist me in identifying insights into potentially hidden qualities surrounding the interaction among individuals, as well as the underlying issues within the participating organization that might not be detected using a quantitative method (Rowley, 2012).

Qualitative researchers focus on the unique nature of a study or inquiry. Three differentiating factors between qualitative and quantitative research are: (a) qualitative researchers seek information to understand a phenomenon, whereas quantitative researchers seek an explanation; (b) the role of the researcher is more personal in qualitative research than in quantitative research; and (c) qualitative researchers seek to construct knowledge, in contrast to quantitative investigators who seek to discover knowledge (Stake, 1995). The qualitative research method satisfied the needs of the study because of limited available research on the topic.

Social and historical construction methods characterize qualitative research, whereas quantitative study requires that the researcher collect and analyze numbers,

collect scores that measure attributes, and compare groups in correlation studies, experiments, and surveys. A disadvantage of quantitative studies is the purpose must be narrow and require a predetermined dataset. Such research limits the researcher's ability to explore the participant's perspective (Yin, 2014), and identifying and exploring participants' viewpoints are critical to this study. A quantitative design was also unsuitable because the variables of the proposed research are unknown.

Research Design

This qualitative study was exploratory in nature with the underlying aim of discovering themes, patterns, and interrelationships to understand complex interventions (Petticrew et al., 2013). The case study was an empirical inquiry for investigating a complex and contemporary social phenomenon systematically within its real-life context (Cronin, 2014). The case study method is appropriate when the research involves *how* or *why* questions. With qualitative methods, researchers gather many forms of data without restriction to a single survey as within a quantitative study. Qualitative researchers analyze data using inductive methods, identifying and building emerging patterns and themes (Bailey, 2014).

In the study, I conducted interviews with a protocol of open-ended questions to gain information and understanding of those integrally involved in the process under study, the organizational complexities, the culture, and related organizational changes to explain the essence of the phenomenon (Gelo, Braakmann, & Benetka, 2008). This approach enabled me to facilitate engagement with oil sands company leaders who were experienced in sustainability management and SMCS performance metrics and allowed

for a broader understanding and conceptualization of the research problem (Roulston, 2014). I explored the experience of these leaders with the conceptualization, development, and implementation of sustainability performance metrics related to their SMCS. Bounded by time and planned activities, I collected detailed information using various data collection procedures over a sustained period (Stake, 1995). Case study methodology allows researchers to develop in-depth descriptions that focus on understanding relevant elements of the case within the scope of the respective environment (Stake, 1995). Scholars have used case study designs to gain insights into business practice and an understanding of particular phenomena manifesting within specific organizations (Yin, 2014).

The occurrence of data saturation supports the presence of an appropriate sample for qualitative research. When the collection of new data does not provide the researcher with additional information on the problem, then saturation is complete (O'Reilly & Parker, 2012; Walker, 2012). Saturation was evident when I reached consistency in coding (Fusch & Ness, 2015). I reached saturation at 15 interviews as responses provided recurring themes and no additional themes emerged. As per the study proposal, I continued to complete 20 interviews to ensure no new themes emerged. I used a semistructured interview format, incorporating focused questions to explore specific experiences and practices used by study participants. Bekhet and Zauszniewski (2012) noted the use of focused interview questions produced a higher probability of data saturation and overcame triangulation challenges.

Population and Sampling

The target population comprised oil sands company leaders from an Alberta-based organization. I selected a minimum sample size of 20 ($N = 20$). Mason (2010) proposed a minimum of 20 participants as adequate for a qualitative study to find transferable patterns. The sample size assured me a proper participant group to provide comprehensive data and ensure saturation (Mason, 2010). Data saturation guides sample size determination in qualitative studies (Fusch & Ness, 2015). I reviewed the collected data and achieved saturation when I reached consistency in coding (Fusch & Ness, 2015). I reached saturation at 15 interviews as responses provided recurring themes and no additional themes emerged.

The geographic limitation of the oil sands region of the province of Alberta was the principal focus of the study; therefore, all of the potential participants came from within this geographical area. Future research may validate the ability to apply the research nationally or possibly even globally within the oil and gas industry. In the study, no demographic factors, other than confirming the requirement of employment with the participating Alberta-based oil sands organization was collected.

I conducted a field test to ensure a clear understanding of the interview questions and generation of the desired data. Staff members from the asset and sustainability management departments of the study sites participated in the field test. I obtained informed consent in writing before the field test interviews from participants experienced working with the SMCS. The interview protocol required no adjustments and corrections upon completion of these preliminary interviews.

Study participants were knowledgeable and experienced with sustainability management and SMCS performance metrics. I required the participants to sign digitally a letter of informed consent. Participant selection in the study consisted of a purposive sample of oil sands company leaders. Purposive sampling involved the careful selection of participants by me based on determined standards (Konig & Waistell, 2012). The purposive sampling technique enabled my access to potential participants with the essential experience needed in the study. Purposive sampling is a standard practice for qualitative designs (Robinson, 2014).

Ethical Research

As recommended by Yin (2014), I ensured the proposed study fulfilled ethical requirements, including an acceptable code of conduct, legal guidelines, and social responsibility requirements to ensure respect, justice, and beneficence concerning all study participants. I obtained the proper permissions and ensured the interview process yields data related to key issues and processes affecting the planning, development, and implementation of appropriate performance metrics for the SMCS. The participants had signed a consent form before the interview sessions commenced. Participants could withdraw from the study up to 30 days before publication of the results. If they chose to withdraw, the participants could follow the established procedure within the initial invitation by sending the researcher either an electronic or a written request to withdraw. The invitation included a sample request to withdraw.

None of the participants received direct compensation for participating. However, there will be an indirect benefit in that, if requested, the participants will receive a copy

of the completed study. No foreseeable risk existed to the participants; hence, they required minimal protection. I used data coding; therefore, the confidentiality of participants and their organizations was secure in the study. An ongoing backup system will secure all data, and backup copies, along with the participant consent forms, secured in a locked container for a minimum of 5 years following completion of the study. I will shred the data after 5 years and erase the digital files.

I applied for Walden University IRB approval before the start of the interview process. On October 29, 2014, I obtained IRB approval to complete research on the study entitled, The Sustainability Management Control System: Factors to Consider in Metric Conceptualization. The approval number is 10-29-14-0253275.

Data Collection

In this study, I collected interview data, archival data, and data from the literature. I employed semistructured face-to-face interviews. The queries functioned as a tool enabling me to explore information associated with the planning, development, and implementation of sustainability performance metrics for a Canadian oil company's SMCS. The purpose of interview questions was to obtain perceptions and opinions from participants (Turner, 2010).

Instruments

As the primary research instrument, I conducted in-depth face-to-face interviews. Interviews, as the secondary research instrument, are one of the most important sources of information in a case study. Participants had signed a consent form before the interview sessions commenced. Individual interviews occurred within a secure meeting

space and on topics relevant to the research study. The purpose of the interview questions was to capture data from oil sands company leaders surrounding the SMCS performance metrics for addressing the primary research question. The open-ended nature of the interview questions enabled me to obtain the detailed responses required. The interview questions were relevant and nonthreatening (Neuman, 2010).

Ensuring the reliability and validity of data is significant in qualitative research. Reliability and validity denote the dependability and transferability of the data (Lincoln & Guba, 1985). By recording and transcription of interviews, I maintained the reliability of responses, and my assessment of the patterns and themes determined the validity through consideration of the relevance of answers to each question. I used a recording device during the interview process to ensure accuracy, and transcription supported the identification of shared meanings and ideas (Simola, Barling, & Turner, 2012). I manually transcribed each recorded interview. Participants received a copy of the data interpretations to facilitate member checking, by providing feedback on the accuracy of the study results (Lincoln & Guba, 1985).

Member checking is a quality control procedure in qualitative research studies and used by researchers to improve validity, accuracy, and credibility by participant verification of the collected data (Harper & Cole, 2012). Aligned with research, conducted by Carlström and Ekman (2012), the data interpretations I developed for this study included participant codes to protect the identities of all participants. I asked participants to validate themes and patterns emerging from the data rather than the actual

transcripts. Member checking enables researchers to ensure categories and themes are accurate (Thomas & Magilvy, 2011).

I reviewed multiple corporate documents related to the SMCS and operational excellence management, both financial and procedural in nature, as a secondary source of data (Bekhet & Zauszniewski, 2012). The documents stored explicit information and represented organizational data. The information gleaned from the records substantiated and augmented evidence drawn from face-to-face interviews (Yin, 2014).

Data Collection Technique

Data collection included interviews, observation, and document review. The open-ended nature of the interview questions enabled me to obtain the detailed responses required. I applied methodological triangulation to the three methods of data collection to assure the integrity of the results, reduced subjectivity, and verified the validity of the data. Handwritten field notes documented the interviews, in addition, to the digital voice recordings of all sessions. A Philips LFH9600 digital voice recorder recorded all interviews. I achieved saturation when consistency in coding transpired (Fusch & Ness, 2015). I reached saturation at 15 interviews as responses provided recurring themes and no additional themes emerged and continued to complete 20 interviews.

I conducted a field test, before the actual interviews and after the IRB approval process, to ensure a clear understanding of the interview questions and generation of the desired data. The field test was an opportunity to rehearse the interview questions and procedures. Chenail (2011) suggested a pilot study to test planned interview questions and procedures. Leaders from the asset and sustainability management departments of the

study sites participated in the field test. I obtained informed consent in writing before the field test interviews from participants experienced working with the SMCS. The interview protocol required no adjustments and corrections upon completion of these preliminary interviews.

I employed member checking to review the findings and data interpretation with the original interview participants. Member checking is a quality control procedure used by qualitative researchers to improve validity, accuracy, and credibility by participant verification of the collected data (Harper & Cole, 2012). Member checking provides an opportunity for the participant to review the findings and offer supplementary information.

In this procedure, I provided participants with relevant summaries of the themes and patterns. I asked participants to validate themes and patterns emerging from the data rather than the actual transcripts. Participants were encouraged to comment on the accuracy of the findings (Koelsch, 2013). Member checking enables researchers to ensure categories and themes are accurate (Thomas & Magilvy, 2011).

Data Organization Techniques

I organized the interview data in a logical manner through transcribing and reviewing the data drawn from each interview session for accuracy and verifying interpretation with the participants. The transcribed responses of the participants provided me with data to categorize and code during the data analysis process (Gelshorn, 2012; Tessier, 2012). Field notes I created enhanced the interviews. I collected corporate document data related to the SMCS. Data coding enabled me to identify common themes

and patterns. I developed a coding index using initial themes and categories. This method is the same as the pattern-matching concept described by Yin (2014), which assisted me to summarize and organize data into common themes based on the research questions.

I captured the data information into NVivo software. An ongoing backup system secured all data, and backup copies, along with the participant consent forms, secured in a locked container for a minimum of 5 years following completion of the study. I will shred the hardcopy data after 5 years and erase the digital files.

Data Analysis Technique

Data analysis techniques for qualitative research enable researchers to employ a process of organizing the collected data into themes or categories (Rowley, 2012). Responses from the open-ended interview questions allowed me categorization and comparison of the data to identify themes. All the data analysis I conducted addressed the research question: What strategies do some oil sands leaders use for critical planning, developing, and implementing SMCS performance metrics?

The data analysis I conducted used information obtained from participants using the following interview questions:

1. How do organization leaders initially generate the vision for a sustainability strategy?
2. How do external and internal stakeholders influence sustainability strategy formulation toward operational excellence?
3. How do external and internal stakeholders influence sustainability strategy formulation?

4. How do organizational leaders determine sustainability performance criteria?
5. How are appropriate performance metrics for the SMCS determined?
6. How important are transparent and accurate measurements for the SMCS?
7. How do existing sustainability performance metrics provide comparative information to inform organization leaders?
8. How do performance measures for the SMCS support organizational sustainability values, strategies, and measures?
9. How important are measurement standards to the creation of an organization-wide culture of operational discipline?

The basic components of data analysis included me organizing the data set, becoming familiar with the data, conduct coding, categorize and interpret the data (Rowley, 2012). I was thorough during the data analysis process by conducting a detailed review of data correctness, completing an overall analysis of all data using my transcribed interviews, written notes, organization documents, and ensuring an ongoing evaluation of potential bias. The primary data analysis process involved me developing an enhanced understanding of what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics.

The NVivo 10 software package supported me with data analysis on all interview responses, written notes, and organization documents. NVivo assisted me to organize and analyze qualitative data to streamline the analysis process. I assigned coded identification numbers to the interviewees to protect their identity. I coded the participants *Participant A* through *Participant T*. Each code represented one of the participants and their

responses to the interview questions. I organized all other collected data as they relate to the research question (Yin, 2014).

I loaded the transcribed data from the interview questions into the NVivo software to identify themes and patterns. The NVivo software helped me with the identification and organization of themes in qualitative data (QSR International, 2012). Bernauer, Lichtman, Jacobs, and Robertson (2013) established NVivo software can assist researchers to advance qualitative data analysis further than is possible manually, by assisting in storing, indexing and sorting the data. The software supports researchers in visualizing the relationships within the data (Bernauer et al., 2013). I benefited using the NVivo software to identify interconnections between concepts and ensure the coding remains constant (Sotiriadou, Brouwers, & Le, 2014).

NVivo enabled me to recognize word frequency themes, phrases, and statements from the data. I created nodes that allowed me to identify coding stripes after the review of preliminary archival data and interviews. The coding of the information supported me with the development of emergent groupings of similar data allowing for initial categorization of patterns (Neuman, 2010). Data analysis involved categorizing and scrutinizing the data in a way that allowed me preliminary assessment followed by distinctive levels of examination. During the data analysis process, I revised codes based on emergent themes.

I employed member checking to review the findings and data interpretation with the original interview participants. Member checking provides the opportunity for the participant to review the findings and offer supplementary information. In this procedure,

I provided participants with relevant summaries of the themes and patterns. I asked participants to validate themes and patterns emerging from the data rather than the actual transcripts. Participants were encouraged to comment on the accuracy of the findings (Koelsch, 2013).

I employed methodological triangulation in the case study to obtain a minimum of three perspectives of the phenomenon. Methodological triangulation is an approach to use multiple sources of evidence and affords researchers the opportunity to investigate a broader range of behavioral concerns (Fusch & Ness, 2015). I accomplished methodological triangulation by asking interview questions, observing the participants, written notes, and reviewing organization documents related to the SMCS.

The conceptual framework is the connection between the literature, research methodology, and the results of the study (Borrego, Foster, & Froyd, 2014). Examining the data within the stakeholder theory, I combined sustainability, CSR, and stakeholder influence with SMCS metric conceptualization. I analyzed data in view of Freeman's stakeholder theory (Freeman, 1984). I used this framework to assist me in interpreting the meaning of the data collected. By examining performance metrics for the SMCS through the lens of stakeholder theory, I compared the data collected with an established theory.

Reliability and Validity

Reliability

Reliability refers to the ability of researchers to replicate research procedures to achieve identical results (White, Oelke, & Friesen, 2012). The term dependability describes the replicability of the decision trail used by the investigator (Thomas &

Magilvy, 2011). I documented the case study research procedures in a step-by-step fashion, such as the data collection procedures, to ensure replicability of the study to minimize biases and errors (Yin, 2014). Documented procedures allow researchers to repeat earlier case studies. I asked the research questions in the same order across interviews.

I conducted a field test to ensure a clear understanding of the interview questions and generation of the desired data. The field test was my opportunity to rehearse the interview questions and procedures. The interview protocol required no adjustments and corrections upon completion of these preliminary interviews. I reviewed and addressed findings from the field to assure repeatability of the interview, data collection, and analyses processes.

I employed member checking to ensure categories and themes are accurate (Thomas & Magilvy, 2011). Member checking is a quality control procedure in qualitative research studies and allows researchers to improve dependability, accuracy, and credibility by participant verification of the collected data (Harper & Cole, 2012). Member checking provides the opportunity for the participant to review the findings and offer supplementary information. In this process interview, participants were provided with relevant sections of the research study and were encouraged to comment on the accuracy of the study (Koelsch, 2013). I requested participants to validate themes and patterns emerging from the data rather than the actual transcripts. Participants were encouraged to comment on the accuracy of the findings (Koelsch, 2013).

Validity

Qualitative validity refers to the accuracy of the findings through utilizing specific procedures to assure credibility (Gelo et al., 2008). Researchers can establish validity through credibility, transferability, and confirmability (Thomas & Magilvy, 2011). Credibility refers to the truth-value of the study and is comparable to internal validity in quantitative research (Thomas & Magilvy, 2011). I increased the credibility by evaluating the representativeness of the complete dataset, reviewed each transcript to establish similarities, and member checking to ensure categories and themes are accurate (Thomas & Magilvy, 2011).

Member checking is a quality control procedure in qualitative research studies and enables researchers to improve dependability, accuracy, and credibility by participant verification of the collected data (Harper & Cole, 2012). I assured unbiased data collection through member checking and strengthened the validity of the study (Yin, 2014). To ensure validity, I interviewed minimum 20 participants and captured all communication involved using the consent form and consistent audio recording procedure.

I employed methodological triangulation in the case study to obtain a minimum of three perspectives of the phenomenon. Methodological triangulation is an approach employed by researchers to use multiple sources of evidence and affords the opportunity to investigate a broader range of behavioral concerns (Fusch & Ness, 2015). I accomplished methodological triangulation by asking interview questions, observing the participants, and reviewing documents related to the research. The three sources of

evidence enabled me to strengthen the assurance of the validity of the findings (Bekhet & Zauszniewski, 2012).

The potential for validity concerns exists when researchers conduct qualitative research with interviews and questionnaires (Chenail, 2011). I used verification practices to assure data collection. Verification practices I employed included member checking, a holistic view of the data, and multiple sources for avoiding bias and for confirming findings and conclusions. Systematic documentation and categorization of observations and reflections assisted me to preserve the accuracy of the original responses. The findings may only apply to organizations within the same industry of similar size as the study site and within the same geographical region.

I provided detailed descriptions of the geographic boundaries and demographics of the study to establish transferability (Thomas & Magilvy, 2011). Transferability refers to the degree investigators can transfer qualitative findings to other settings or contexts (Onwuegbuzie et al., 2012). To enhance the transferability of my study, I provided participants with relevant sections of the research study, and I encouraged them to comment on the accuracy of the study (Koelsch, 2013).

Confirmability refers to the neutrality and accuracy of the data (Houghton, Casey, Shaw, & Murphy, 2013). I documented the case study research procedures in a step-by-step fashion, such as the data collection procedures, and should ensure replicability of the study to minimize biases and errors (Yin, 2014). Documented procedures allow investigators to repeat earlier case studies. I asked the research questions in the same

order across interviews. I established confirmability of the data by triangulation and identifying frequencies of words and themes within NVivo for accurate analysis.

I reviewed the collected data for saturation. The occurrence of data saturation supports investigators with the presence of an appropriate sample for qualitative research. When the collection of new data does not provide investigators with additional information on the problem, then saturation is complete (O'Reilly & Parker, 2012; Walker, 2012). I achieved saturation when I reached consistency in coding (Fusch & Ness, 2015). I reached saturation at 15 interviews as responses provided recurring themes and no additional themes emerged and continued to complete 20 interviews to ensure no new themes emerged.

Transition and Summary

Section 2 started with a restating of the purpose statement. Throughout the section, I addressed the following areas: (a) research method, (b) research design, (c) population sampling, (d) data collection techniques, and (e) data analysis techniques. I explored the appropriateness and justification of the research method against the research question and demonstrated the qualitative, exploratory case study method of research is appropriate for exploring the proposed topic under study. I presented the specific questions for the study to show the logical flow in the research thought and covered my role and responsibilities of the study.

Section 3 of the study will highlight and discuss the findings of the completed research and their significance to professional practice. Section 3 will include the findings, conclusions, and presentation of the data, the application of the project to

professional practice, expected social change, and suggested material for future research. I will synthesize Sections 1, 2, and 3 with the literature review and findings of the data set.

Section 3: Application to Professional Practice and Implications for Change

In this section, I provide a review and analysis of information gathered from semistructured, face-to-face interviews with a diverse group of 20 participants. The participants comprised oil sands company leaders from an Alberta-based oil organization. Experience with sustainability management and exposure to SMCS performance metrics were criteria for participation. I demonstrate linkage to the conceptual framework and literature review provided in Section 1 of the study by discussing examples provided by the participants. Section 3 includes my findings and considerations for the application of the results to professional practice, suggestions for social change, recommendations for action and further study, and reflections on the research experience.

Overview of Study

The purpose of this qualitative single case study was to explore strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics. I investigated the following overarching research question: What strategies do some oil sands leaders use for critical planning, developing, and implementing SMCS performance metrics? Five themes emerged from the analysis of the data: (a) organization strategy and leadership, (b) SMCS maturity, (c) stakeholder influence, (d) periodic management review, and (e) performance metric definition and data. In the following subsection, I describe these themes in more detail and support the themes with transcript citations.

Presentation of the Findings

Table 1 provides a summary of the frequency of participant leadership demographics. I refer to the 20 oil sands company leaders as Participants A through T. Participants represented four hierarchal leadership levels including vice president, general manager, director, and manager.

Table 1

Demographics Characteristic of the Participants

Leadership Level	*n*	*%*
Vice president	6	30
General manager	4	20
Director	6	30
Manager	4	20
Total	20	100

I identified five prevalent themes including (a) organization strategy and leadership, (b) SMCS maturity, (c) stakeholder influence, (d) periodic management review, and (e) performance metric definition and data. These emergent themes align with the conceptual framework used for the study, the stakeholder theory. The themes pertain to significant issues that influence how oil sands company leaders adapt business strategy and the SMCS and the consequent influence to conceptualize performance metrics for the SMCS.

Theme 1: Organization Strategy and Leadership

The first theme to emerge was organizational strategy and leadership. This theme comprised of two subthemes to include operating model selection and performance criteria and metrics to align with organization strategy values (see Table 2). Specifically, participants highlighted the need for leaders to adapt business strategy and the SMCS to market conditions. Baumgartner (2014) found similar themes in a study conducted to explore how a conceptual framework for managing corporate sustainability combines organization values, strategies, and instruments to enable sustainable development. Chenhall and Moers (2015) established that organization strategy affects SMCS controls and performance metrics in a study conducted to explore the role of innovation in the evolution of management accounting and its integration into management control. The SMCS supports oil sands company leaders with sustainability strategy development and implementation of purposeful strategies (Baumgartner, 2014).

My analysis of the participants' responses to the interview questions and organization documents showed organization strategy and leadership (see Table 2) critically support organizational leaders to implement a successful SMCS. Building on stakeholder theory as the conceptual framework of this study, I determined through the research findings of the first theme that establishing the organization vision and values between senior leaders and employees is critical for implementing a successful SMCS system. Lee et al. (2013) showed that sustainable development integrates into organization culture through initiatives, communication, and engagement by senior leaders and employees. Tideman et al. (2013) posited to create a culture of sustainability

within an association, organization leaders must provide visionary leadership, create alignment, and recognize interdependence among stakeholders.

The literature referenced in Section 2 (Arjaliès & Mundy, 2013; Baumgartner, 2014; Chenhall & Moers, 2015; Gond et al., 2012; Hansen & Schaltegger, 2016) was supportive of the data collected in developing understanding of how the role of leadership is critical to integrate the SMCS controls with organization sustainability strategy. The operating model node selected by the organization subtheme showed the necessity for leaders of understanding industry conditions and alignment with sustainable development requirements. The performance metrics align with organization values subtheme suggested the need for leaders to set consistent and clear sustainability goals, values, and strategies.

Table 2

Organization Strategy and Leadership

Nodes	No. of participants to offer this experience	% of participants to offer this experience
Operating model selected by the organization	16	80
Performance metrics align with organization values	9	45

Operating model selected by the organization. Responses from participants and organizational documentations showed senior leaders create the organization's sustainability strategy and set the vision for the desired end state. Leaders integrate successful corporate sustainability activities and strategies into organizational

management controls (Stocchetti, 2012; Thomas & Ambrosini, 2015). The SMCS supports corporate leaders to implement sustainability (Gond et al., 2012) and functions as an overarching framework enabling leaders to align multiple improvement initiatives (Siska, 2015).

Sixteen (80%) participants emphasized the importance of organization leaders generating their vision for sustainability and communicating to the organization. Participant N explained, "You would want to make sure that your senior leaders provide that mission, vision, and value, which they have done." Participant G noted, "The sustainability strategy was built into our core purpose or our vision statements itself, and the concepts of a triple bottom line and long-term lifecycle value assessment are critical within that."

Hansen and Schaltegger (2016) established sustainability strategy and the selected operating model influence the SMCS. A critical success factor for leaders is to embed sustainability strategy values in the management controls of the SMCS (Thomas & Ambrosini, 2015). Organization leaders should assure alignment between the sustainability strategy, operating model, and the SMCS (Hansen & Schaltegger, 2016).

Participant J described the next step. "We started to describe what that operating model looks like, strong central functions, adherence to procedures, organizational discipline, and some of those attributes." Participant C explained,

> It was starting with saying we care about being operationally excellent, and we had to describe that. Then we have to define how our management system supports that, and why we believe in a management system in supporting that, and

> then we have to understand that the culture and the management system go together to get operational excellence.

Participant E noted, "With that end state in mind, what do appropriate operational excellence and operational discipline look like? Once you have defined what that looks like, you will then put the performance criteria in place to measure." Participant G commented,

> We use the language of operational discipline, how we expect our employees to behave, how we expect workers to behave, and that is where the SMCS itself is so important to set that tone and have an accountability structure to do that.

Leaders of the oil sands organization have identified the need for sustainability management control and improvement to support the implementation and efficacy of sustainability strategy integration (Poveda, 2015). The integration of CSR and sustainability principles into business processes and corporate performance management systems assists organizational leaders in minimizing operating costs, operational risks, and value chain integration (Bocken et al., 2013). The implementation of an SMCS, integrated across critical functions of organizations, can enable leaders to facilitate the implementation of sustainability strategies to improve operational discipline and organizational performance (Gond et al., 2012; Hansen & Schaltegger, 2016).

Performance metrics align with organization strategy values. Nine (45%) of the participants indicated sustainability goals and the SMCS metrics are interconnected. Organization leaders developed a consistent and clear set of values, strategies, and performance metrics. Leadership understanding of the core processes of the organization,

informed by the wants and needs of all stakeholders, the mission of the enterprise, and its goals and objectives will allow evaluation of the organization (Eldridge et al., 2014). The performance metrics embedded in the SMCS by leaders affect the design, successful implementation, and continual improvement of the sustainability management strategy to mitigate industry specific sustainable development risks and support leaders with business opportunities and organization obligations (Baumgartner, 2014). The performance metrics are a reflection of how the organization leaders perform against the vision, strategy, and the performance criteria expected.

Organization leaders have a corporate strategic planning process, which defines the performance criteria that support the strategy and sets out targets and metrics, which in turn translate into goals and to performance contracts at the employee level. Participant G explained,

> If the whole system is logically consistent those all line up right from strategy down to the individual performance metrics, and if everybody executes their accountabilities, and their performance goals well, they should deliver the outcomes designed in the strategy.

Participant E noted,

> Carefully selecting appropriate metrics that drive the right behavior and strategy and discussion around our values will also drive that value discussion. What organization leaders monitor, what they report, and what focus they place on the particular metrics will drive the strategy of the organization.

This approach assists employees in understanding what the strategy and the values of the organization are.

The SMCS provides oil sands company leaders with measurable, efficient, and transparent abilities related to organizing and controlling organizational behavior. It enables leaders to communicate to employees and stakeholders the vision and desired behavior, and it ensures implementation of corporate sustainability objectives at the operational level (Hansen & Schaltegger, 2016). The overall enterprise strategy requires operations alignment and encourages continuous improvement.

Theme 2: SMCS Maturity

The second theme to emerge was the importance of SMCS maturity development. Eight participants (40%) indicated SMCS maturity influences performance metric development. I discovered two subthemes relate to SMCS maturity development to include SMCS implementation, business integration, and level of understanding, and the implementation versus performance-based metrics (see Table 3). Specifically, participants highlighted the need for leaders to understand the level of SMCS implementation, business integration, and associated performance metrics. Lueg and Radlach (2016) found similar themes in a study conducted to explore how to manage sustainable development with an SMCS. Organization leaders decided to develop a custom management system, tailored to the needs of the organization. Phan and Baird (2015) found similar themes, as their participants expressed the need for organization leaders to implement a comprehensive SMCS to meet organizational needs.

I discovered SMCS comprehensiveness, business integration, level of utilization, and associated performance metrics (see Table 3) critically support organizational leaders to implement a successful SMCS. Building on stakeholder theory as the conceptual framework of this study, I established through the research findings of the second theme involvement from multiple stakeholders are required to establish a comprehensive SMCS, tailored to the requirements of the organization, with associated performance metrics. Phan and Baird (2015) posited the pressure applied by the government, through the creation of appropriate regulatory pressures and public incentives, and by customers, employees, professional groups, the media, and community, influenced the comprehensiveness of the SMCS.

The literature referenced in Section 2 (Arjaliès & Mundy, 2013; Baumgartner, 2014; Gond et al., 2012; Searcy, 2012) was supportive of the data collected in developing understanding of critical success factors for SMCS configuration, business integration, and development of associated performance metrics. The SMCS implementation, business integration, and level of understanding subtheme showed the necessity of developing the SMCS to the requirements of the organization. The implementation versus performance-based metrics subtheme suggested the need for performance measurement.

Table 3

SMCS Maturity Development

Nodes	No. of participants to offer this experience	% of participants to offer this experience
SMCS implementation, business integration, and level of understanding	8	40
Implementation versus performance-based metrics	8	40

SMCS implementation, business integration, and level of understanding. For metric conceptualization, the oil sands company leaders should consider if the SMCS was a recent implementation or well established. SMCS performance metrics affect the method leaders employ to conduct business (Searcy, 2012). In a study to explore how to configure management control systems Gond et al. (2012) established under-developed performance metrics are a barrier for leaders to integrate the SMCS with sustainability strategy.

Eight (40%) participants emphasized the importance to incorporate appropriate standards, policies, procedures, and work practices in the SMCS. These should be succinct and easily understood by sustainability practitioners. The SMCS should be the single source of truth for standards and changes governed by a formal management-of-change process. Implementation of the SMCS reduces and eliminates redundant, overlapping, and conflicting standards. Leaders define the goals of the SMCS processes to understand what the outcomes of the process are and then define appropriate performance metrics to establish and achieve the desired results.

Oil sands company leaders initially experienced a lack of understanding how to implement controls. This lack of understanding created uncertainty about required and appropriate performance metrics for the SMCS. Literature revealed a lack of agreement prevails to the role of SMCSs and use of controls to support sustainability strategy implementation in organizations (Arjaliès & Mundy, 2013). Eight participants recommended educating leaders and creating a shared agreement of what SMCS controls mean. An SMCS with appropriate controls supports leaders with efficient implementation of sustainability strategies to enhance organizational performance (Baumgartner, 2014).

Eight (40%) participants stressed the importance to articulate the intent of the SMCS segment/pillar and desired organizational behavior. Strategic intent influences metric conceptualization. Participant C stated, "You cannot just learn from others without going through puberty, and so we have to go through the stages of learning and understanding to be able to get to our view of what operational excellence will be." Participant M noted, "I think we were trying to understand what the system is."

Participant N noted, "When you actually have the maturity or you deserve the right to move into a larger amount of metrics because, what will happen is if you do everything for everyone it becomes fluff." Participant O stated, "It was clear, and we are aligned as an organization that, continuing to work at to get to that level of maturity that we need to get to, for the SMCS was a focus." Participant Q commented,

> At the beginning we tried to be all things to all people so even in the writing of the control, that is why the SMCS had to go through a simplification exercise. We were learning what a management system did for an organization, let alone what

> was the right control and what was the right metric. I would say that we had to step back and say why it is important to change the culture and why it was important to have these processes in place.

Implementation versus performance-based metrics. Eight participants (40%) indicated SMCS performance metrics develop over time. Leaders reconsider performance metrics with organizational and SMCS maturity improvement. Participants revealed leaders employ metrics to measure implementation progress initially and should develop to business effectiveness measures. As the SMCS matures leading metrics are established which assist leaders to measure the effectiveness of the SMCS controls. Performance metrics and indicators assist leaders in assuring the efficiency of a robust and comprehensive SMCS by measuring the effectiveness of the interactive controls upon which the SMCS relies (Arjaliès & Mundy, 2013).

Participant K noted, "A lot of it was around the implementation progress versus the effectiveness of the implementation." Participant C stated, "We measure progress in many aspects of our business right now versus effectiveness." Participant J explained,

> Initially, the performance criteria were really around implementation criteria, if you think of the initial phases of projects. It was really around the status of the implementation, and now it is shifting to metric based, like results based, what are the reliability performance, process safety performance, the metrics that make that up.

Participant M noted, "I think there will be some metrics that is there for long periods of time, but I think as our system matures, we will want to measure different

things." Leaders are relying on proactive measurement against targets for health, safety and environmental management (Hansen & Schaltegger, 2016).

Theme 3: Stakeholder Influence

The third theme to emerge was stakeholder influence. This theme comprised of two subthemes to include regulators/shareholders/community, and how industry peers influence performance criteria and performance metric selection (see Table 4). Participants highlighted the need for leadership towards stakeholder management to promote sustainability (Gibson, 2012; Hansen & Schaltegger, 2016). Tideman et al. (2013) posited to create a culture of sustainability within an association, enterprise leaders must provide visionary leadership, create alignment, and recognize interdependence among stakeholders.

My analysis of the participants' responses to the interview questions and organization documents showed stakeholder influence (see Table 4) is a critical strategy considered by leaders to implement an SMCS. Building on stakeholder theory as the conceptual framework of this study, I established through the research findings of the third theme leaders' understanding of the needs of stakeholders and regulators and their influence are critical for implementing a successful SMCS. Hansen and Schaltegger (2016) established leaders respond to external stakeholder expectations. Leaders who understand stakeholder pressure and interest support development of trust between the external stakeholders and the organization (Eldridge et al., 2014).

The literature referenced in Section 2 (Baumann-Pauly & Scherer, 2013; Dutta et al., 2013; Gond et al., 2012; Harrison & Wicks, 2014; Klettner et al., 2014; Poveda,

2015; Thijssens et al., 2015) was supportive of the data collected in developing understanding of stakeholder management and influence. The regulators/shareholders/community subtheme demonstrated the necessity of understanding stakeholder expectations about CSR and sustainable development requirements. The industry peers influence performance criteria and performance metric selection subtheme suggested the need for performance measurement by leaders.

Table 4

Stakeholder Influence

Nodes	No. of participants to offer this experience	% of participants to offer this experience
Regulators/shareholders/community	11	55
Industry peers influence performance criteria and performance metric selection	10	50

Regulators/shareholders/community. Organization leaders review the business landscape from a regulatory framework perspective, societal context, pressures from nongovernmental organizations, aboriginals, and the government (Hansen & Schaltegger, 2016; Oates, 2015). Eleven (55%) participants indicated the rapidly changing and diverse operating environment intensifies the exposure of organization leaders with global stakeholders to improve corporate social performance (Chenhall & Moers, 2015). Participant G noted, "Stakeholders hold us accountable through regulatory processes and public reputation." Leaders respond to external stakeholder expectations (Hansen & Schaltegger, 2016). Participant K explained, "We need to make sure we are knowledgeable about what the expectations are and how society, in general, is changing."

Stakeholders influence the SMCS through the controls organization leaders establish (Eldridge et al., 2014). Leaders evaluate which control measures are important to both external and internal stakeholders (Hansen & Schaltegger, 2016; Lin et al., 2014). Stakeholders influence leaders (Freeman, 1984) to pursue such development by incorporating social, environmental, and economic responsibility considerations into operational strategies (Phan & Baird, 2015). Stakeholder identification and the extent of environmental and social responsibility by aligning business activities with stakeholder expectations are critical for organizational leaders (Hansen & Schaltegger, 2016; Phan & Baird, 2015).

Traditional MCSs offer leaders limited incorporation of interests of a broad range of stakeholders, other than shareholders, and in addressing social and environmental issues, as well as their interrelationships with financial issues. Sustainability-focused MCSs developed to resolve this deficiency (Gond et al., 2012; Hansen & Schaltegger, 2016). Participant E explained, "You need to understand all of your stakeholders and then from the management system perspective, you build your management system in a way that meets the needs of all those stakeholders, either directly or indirectly." The SMCS links financial to nonfinancial goals and incorporate multiple stakeholder perceptions (Bocken et al., 2013).

Representatives from regulators require leaders to implement appropriate processes that manage business risks effectively (Hansen & Schaltegger, 2016). Regulatory requirements on leaders have a positive impact on sustainability disclosure and corporate governance in industries more visible to stakeholders (Chan et al., 2014).

Organizational leaders review regulatory compliance to determine the extent to which government regulations will raise future standards for compliance, thus reducing the risk of regulatory disruption to business operations. Participant A noted, "Changing regulations have a direct influence on our sustainability strategy and approach." Participant I commented, "We experience increased auditing requirements and government regulatory bodies taking an interest in the management system." Participants A and P recommended organization leaders collaborate with regulatory and governmental associations to create awareness about business strategy and operating context.

Industry influence. Ten (50%) participants emphasized the importance to include industry-related performance metrics. Leaders should benchmark relative to industry peers and align to common industry standards (Hansen & Schaltegger, 2016). Control measures embedded within the SMCS link to industry and regulatory requirements as well as organizational performance (Lueg & Radlach, 2016). This practice provides leaders the opportunity to exhibit credibility of metrics to internal stakeholders. Participant P noted,

> The ability to reach out to the industry, to all those various stakeholders, and make sure that we are up-to-date with what are the concerns of the day, what are the emerging trends, what are the industry standards or practices that we need to aspire to.

Alignment with industry performance metrics offers leaders the opportunity to compare the organization's performance against industry performance. "Many of the sustainability metrics in the organization's sustainability reports are common across the

industry, and can help guide us to what we might need to do differently or what is possible in the industry" (Participant H). Participant I commented, "We find ourselves continuing to benchmark against what we would regard as the leaders in our field when it comes to management systems." Participant M noted, "We are moving our metrics more towards external so that we can understand how we benchmark against our industry."

Participants revealed leaders from industry peer's share mutual best practices and controls to progress the region, industry, and technology. Another external stakeholder consideration is the industry that the organization operates in, to assure the leaders of the organizations mature and focus together. Participant N commented,

> Understanding what their focus areas are and how you can leverage, and actually focus on the same things to progress either a region, to progress an industry, to progress a technology, together or apart, so there is no redundancy or there is no race to the finish line because a lot of the sustainability pieces are mutually beneficial when you talk to those industry players.

Theme 4: Management Review

The fourth theme to emerge was management review. This theme comprised of two subthemes to include enterprise management review to identify risks and management review of the SMCS (see Table 5). Specifically, participants highlighted the need for leaders to conduct regular management reviews of the enterprise and the SMCS. Thirteen participants (65%) indicated regular enterprise management reviews identifies business risks and influence performance metric development. The design, development, and implementation of appropriate sustainability performance metrics by leaders to

assure the effectiveness and efficiency of the management controls of the SMCS enhance the field of ERM. Grace et al. (2015) established ERM is an organizational method for leaders to improve risk-management awareness and practices to enhance operational and strategic decisions.

My analysis of the participants' responses to the interview questions and organization documents showed regular management reviews (see Table 5) critically support organizational leaders by providing the opportunity to assess the effectiveness of SMCS controls and appropriateness of performance metrics. Building on stakeholder theory as the conceptual framework of this study, I established through the research findings of the fourth theme understanding multiple stakeholder expectations are critical for implementing a successful SMCS. The SMCS processes enable leaders to monitor performance, promote innovation, continual improvement, facilitates identification of threats and opportunities, and initiates interventions as and when needed to support the sustained excellence of operations (Arjaliès & Mundy, 2013).

Table 5

Management Review

Nodes	No. of participants to offer this experience	% of participants to offer this experience
Enterprise management review to identify risks	13	65
Management review of SMCS	13	65

Enterprise management review to identify risks. Leaders assess the internal and external business environment and gauge risks to the enterprise. Soin and Collier (2013) argued pursuing sustainability risk management would enhance reputation, promote economic stability of the customer base, as well as increase competitive advantage. Thirteen (65%) participants confirmed the organization leaders follow a risk-based management approach. Participant B explained, "Look at the main parts of your business. What is hurting you? Is it equipment that is hurting you, is people hurting you, are processes hurting you, what is hurting you?"

Business priorities that focus on risk management and mitigation influence how leaders develop SMCS controls and the associated performance metrics. The ERM concept assists organizational leaders with the development of processes that identify and monitor risks to protect shareholder value while concurrently increase profitability (Soin & Collier, 2013). Participant J commented, "Based on the individual operating areas what are their higher risks and then those are the elements that are progressing rather than trying to move everything at the same time." What you choose to focus on is risk-based depending on the current state of your particular business." Participant C explained, "You

have to determine the importance of performance metrics and whether they are high risk or not because then you will make it part of the annual incentive."

Based on the business review and established improvement plan to mitigate sustainability risks leaders then update SMCS controls and associated performance metrics. Participant O commented, "The performance measures have to reflect where do you start on this journey, where you are on this journey, where are your biggest gaps, how does that relate to the risks or opportunities of the company." Participant Q noted,

> I think the management review process is designed to inform across business areas, across functions so that we are understanding where the gaps are, where we need to work together, where we need to address individualized action instead of cross-functional or cross-business.

Management review of SMCS. Thirteen (65%) participants stressed the importance of regular SMCS reviews. Participant C noted, "Management review creates conversation about operating metrics." Management review of the management system provides senior leaders with an overall understanding of how the management system is progressing. Regular management review provides leaders the opportunity to assess the effectiveness of SMCS controls and appropriateness of performance metrics. Arjaliès and Mundy (2013) described how the SMCS has the potential to influence and transform organizational processes and contribute to sustainable development. Participant E commented, "We have the management review process annually which then looks at the metrics again from an SMCS perspective to say how well our processes are being followed and are we compliant to our processes." Management reviews provide leaders

the opportunity to identify new metric requirements and existing metrics that achieved objectives and not required anymore.

Participants emphasized the importance to measure organizational maturity and deliberate interventions to develop the maturity. Participant G explained, "We do that through the management review processes of that system, and leaders need to understand how they are performing against those expectations, based on the metrics and criteria that are established." Participant L noted,

> So that was not a metric before, but coming out of the management review, and that discussion that happened with the leaders in that management review, that next year we need to focus on bringing more rigor to the approval process.
>
> Participant I commented; we started our management review, and you know, that was probably the first area where we started to have a discussion about performance metrics, I think that we got caught between what is available versus what we should be actually measuring.

Theme 5: Performance Metric Definition and Data

The fifth theme to emerge was performance metric definition and data. Fourteen participants (70%) indicated performance measurement allows leaders to improve business performance over time. I identified three patterns that relate to performance metric definition and data, (a) defined performance metrics, (b) the importance of published measurement standards, and (c) availability of consistent data from information systems (see Table 6).

Leadership ability to measure performance across an enterprise is decisive to its success and provides the ability for leaders to execute strategy across the operation. Hansen and Schaltegger (2016) emphasized the quality and relevance of performance measures for informed decision making. Performance measures must enable leaders to reflect causal linkages identifying the impact of sustainability performance to be effective (Lin et al., 2014).

My analysis of the participants' responses to the interview questions and organization documents showed the availability of performance metric definition and data (see Table 6) critically support organizational leaders to implement a successful SMCS. Building on stakeholder theory as the conceptual framework of this study, I established through the research findings of the fifth theme stakeholder understanding of the performance metrics are critical for implementing a successful SMCS. The literature referenced in Section 2 (Boiral & Henri, 2015; Chauvey et al., 2015; Hansen & Schaltegger, 2016; Lin et al., 2014; Menichini & Rosati, 2014; Michelon et al., 2015) was supportive of the data collected in developing understanding of how to establish appropriate performance metrics for the SMCS.

The well-defined performance metrics subtheme showed the necessity of understanding industry measurement standards and alignment with sustainable development requirements. Performance criteria and metrics align with organization values subtheme suggested the need for performance measurement.

Table 6

Performance Metric Definition and Data

Nodes	No. of participants to offer this experience	% of participants to offer this experience
Well defined performance metrics	14	70
Importance of published measurement standards	14	70
Availability of consistent data from information systems	14	70

Defined performance metrics. Participants recommended defined performance metrics, kept to a minimum, and metrics focus on critical and high-risk business areas. Performance metrics enable leaders to provide assurance SMCS controls function as desired. Important to understand which management controls to measure and why it is important for organization leaders to measure them. Under-developed performance metrics are a barrier to SMCS integration (Gond et al., 2012).

Participants recommended the definition and the formulas for performance metrics are consistent across the organization. Participant A commented, "To drive consistent operational discipline in the organization, we need to be measured by the same definition and calculation formula, to have a positive impact on organizational culture." Participant E noted, "From an organizational perspective, you need to define and document the metric because that will help the transparency." Participant G explained, "Simple, clear, transparent metrics and performance criteria help leaders diagnose where they are on this maturity curve." The ability to show people the rationale behind the

performance metrics and their use is incredibly important. Participant K explained, "If people do not understand how the data is collected, if they cannot almost rebuild the data themselves to be able to trust it, then you will not achieve your results."

Developed performance indicators monitor and assess the value creation of operational excellence strategies and activities. An appropriate number of performance indicators must exist for management disciplines. Measurement and reporting create change transparency and communicates sustainability strategies and practices to the organization stakeholders (Menichini & Rosati, 2014).

Importance of published measurement standards. Participant N indicated there was no governance initially over the definition and stewardship of SMCS performance metrics. "The whole aspect of measurement standards in our organization culture is still a journey, but having measures around your performance indicators is key, or you cannot compare them" (Participant C). Participant E explained,

> You define performance metrics in the standards, and then you will monitor them based on the standard. That is extremely important because if you are not doing that consistently, then what you end up having people starting questioning the quality of the metric, the quality of the data and then they get in the whole discussion again about I do not believe the data so therefore they ignore the data.

Participant G commented,

> Standardization is a huge part of an SMCS, and I am not even sure how you make progress without both the recognition of the centrality of the standard, to the performance of that system and then the operational discipline of the leaders.

Participant N explained,

> How it works now is each metric has a one-page explanation guide that has document control. Presenting the data is almost as important as what the data is saying because if you do not present it well, then people will not be able to understand what the data is actually telling them.

Participant P noted, "Everybody understands what the meaning of the metric is, how you measure it, where you get the data from, and how it is reported."

Availability of consistent data from information systems. Participants revealed if source data is not accurate nobody would trust the information provided by the metrics. Participant D commented, "This organization actually have a process where they check and vet the data to make sure that it is all consistent." Participant E noted, "We do a lot of data cleansing because the systems do not produce the data that we wanted."

Organization leaders should define reporting requirements. Detailed metric definitions will provide clarity of data source needs, how to compile data, and cleansed for report publication. The quality and relevance of performance measures are critical for informed decision making (Hansen & Schaltegger, 2016). Participant E commented,

> Ideally you look at your end-state of mind and what you are trying to report, how you are trying to report it, then you step back, and you look at your systems and establish if I can fix my systems to actually report it the way I want.

Participant G noted,

> Because we have had such inconsistency in the measurement of some of these things that it is very difficult to gauge enterprise performance or relative

performance if you do not have an underlying confidence in the data. Measurements standards, if applied properly, will actually lead to that integrity and confidence in the data, and it has been a monster learning for us.

Applications to Professional Practice

Increased understanding by business leaders what key factors affect sustainability controls and performance measurement conceptualization may assist leaders to integrate the SMCS with organization sustainability strategy and enhance organizational effectiveness (Arachchilage & Smith, 2013). Understanding what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics may assure compliance with sustainable development concerns and allow prioritization of business goals within sustainability requirements (Kerr, Rouse, & De Villiers, 2015). Oil sands company leaders may employ the strategies to implement and maintain an effective SMCS.

The first theme to emerge was organizational strategy and leadership. Specifically, leaders should define how the SMCS support the sustainability strategy, and envision how the desired organization culture and SMCS interact to achieve operational excellence. Therefore, business leaders can develop a department to investigate and assure alignment between the sustainability strategy, operating model of the business, and the SMCS.

The second theme was how SMCS maturity influences performance metric development. Leaders should establish the SMCS implementation status, depth of business integration, and level of understanding by sustainability practitioners. The

implementation of an SMCS, integrated across critical functions of organizations, can enable leaders to facilitate the implementation of sustainability strategies and improves operational discipline and organizational performance (Gond et al., 2012). Therefore, business leaders should establish an implementation team and training plan to support the implementation of the SMCS and progress performance metrics from implementation to performance based.

The third theme was how stakeholders influence the SMCS through the controls organization leaders have to establish. Specifically, these considerations indicate the importance of organizational leaders identifying multiple stakeholders and their objectives before establishing performance metrics and collecting measurement data (Bocken et al., 2013). Control measures embedded within the SMCS link to industry and regulatory requirements as well as organizational performance (Lueg & Radlach, 2016). Therefore, leaders can develop a department to evaluate what is important to both the external and internal stakeholders.

The fourth theme revealed how leaders employ regular management reviews to identify business risks. Specifically, organization leaders use regular management reviews to assess the effectiveness of SMCS controls, appropriateness of performance metrics, and the management system utilization. The design of the management review process enables leaders to inform across business areas and functions, to inform organization leaders about risks. Therefore, leaders can develop a department to conduct yearly management reviews and assess the effectiveness of the SMCS and performance metrics.

The fifth theme revealed the significance of standardized definitions and formulas for performance metrics across the organization. Specifically, leaders are encouraged to understand which management controls to measure and why it is imperative for the effectiveness and efficiency of the SMCS. Under-developed performance metrics are a barrier to leaders for sustainability strategy integration with the SMCS (Gond et al., 2012). Leaders can develop a departmental responsibility to define selected performance metrics to enable the planning, successful incorporation, and continuous improvement of the organizational sustainability strategy. Organization leaders develop and publish measurement standards across the organization and assure the availability of consistent data from information systems.

Implications for Social Change

The implications for positive social change include the potential for oil sands company leaders to implement strategies for critical planning, developing, and implementing SMCS performance metrics. Oil sands company leaders may employ the results of this study (a) organization strategy and leadership, (b) SMCS maturity development, (c) stakeholder influence, (d) periodic management review, and (e) performance metric definition and data to support social change by developing strategies regarding the means of performance metric conceptualization for effective sustainability integration into the SMCS. Leaders may employ the strategies to influence social change by assuring effective and efficient management control to improve sustainability performance, sustainability strategy integration, reduce operational risk to physical assets, and enhance employee health and safety.

Increased understanding by societal stakeholders of the influence of sustainability controls and the conceptualization of performance metrics can enhance organizational efficiency and effectiveness. Sustainable development and espousing principles for CSR by leaders are critical to the future viability of the oil sands industry (Poveda, 2015). Leaders use an effective SMCS to meet their social, environmental, and economic obligations toward society while providing the enterprise an opportunity to deliver shareholder value and achieve financial objectives through strategic revitalization and subsequent organizational change (Arjaliès & Mundy, 2013). Managers and stakeholders employ an SMCS to efficiently control and improve compliance with regulatory requirements (Kibrit & Aquino, 2015), and utilized by organizational leaders toward implementing sustainability while providing new opportunities for value to shareholders.

Recommendations for Action

Oil sands company leaders could employ the findings from this study to strategically adapt the SMCS performance metrics to support organizational strategy. The study participants provided insight into what strategies some oil sands company leaders use for critical planning, developing, and implementing SMCS performance metrics. Increased understanding of what key factors affect sustainability controls and performance measurement conceptualization may assist organization leaders to integrate the SMCS with organization sustainability strategy and enhance organizational effectiveness.

Oil sands company leaders may employ the strategies I discovered by provoking their thinking in areas such as SMCS alignment with corporate strategy values, SMCS

maturity development, stakeholder influence, management review, and performance metric definition and data availability. A critical accountability of senior leaders is to generate the vision for sustainability and communicate to the organization's employees. Leaders should assure alignment between the sustainability strategy, operating model of the business, and the SMCS. Leaders employ appropriate performance metrics to assure the efficacy of the management controls upon which SMCSs relies and will assure compliance in relation to sustainability concerns and allow prioritization of business goals within sustainability requirements.

I will provide the participants with a summary of the findings, distribute and discuss the complete doctoral study to those interested, and publish in ProQuest. The findings may also stimulate leadership interest in training programs and corporate work sessions to enhance the performance measurement framework with respect to the SMCS for improved operational excellence and sustainability management. Where possible, I plan to publish the research findings using appropriate platforms such as professional and academic conferences and seminars.

Recommendations for Further Study

The topic how factors influence performance metric conceptualization for the SMCS merits additional research given the lack of information on the topic. Recommendations for further study include (a) longer term studies to understand how organizational strategy influences SMCS development, (b) studies to establish how the level of SMCS maturity affect organizational and cultural change, (c) studies regarding how stakeholders influence SMCS development, (d) studies about management review

effectiveness and impact on the SMCS, and (e) studies addressing how availability of appropriate data affect the effectiveness of the SMCS. I analyzed data from one Canadian oil sands organization in Alberta using a sample size of 20 participants. Obtaining the experiences of participants from only one organization might have limited the application of results.

Geographically, the focus was one Alberta-based oil sands organization. I recommend a study based in a different North American geographical location. Other researchers might consider conducting a multiple case design on oil sands organizations. Researchers should also conduct the same or similar studies with refineries and conventional oil extraction organizations. I suggest studies investigating the effect of an SMCS in established process industries. Studies on organizations not in environmental sensitive and volatile industries will provide insight about SMCS development in less regulated business environments.

I employed a qualitative research method with a case study design; researchers should consider other methodologies and designs for further research on oil sands organizations. Use of an alternative research method could extend the study findings regarding how key issues are critical for planning, developing, and implementing SMCS performance metrics. Examination of this topic by researchers using the quantitative method may identify significant relationships or correlations between the organization's value system, corporate strategy, leadership principles, and SMCS development. Finally, future researchers could use findings from this study to develop a survey that serves as

the foundation for a quantitative investigation of the relationship between organizational strategy and implementing performance metrics for the SMCS.

Reflections

The research process revealed significant information on the problem from diverse perspectives. The data collection process allowed me to converse through open-ended questions with participants at various leadership levels. I adhered strictly to the interview procedure defined in the research design.

I gained improved understanding of organizational strategy, strategic intent to influence organizational behavior, the role of the SMCS, and factors affecting the development of appropriate performance metrics. My knowledge broadened about SMCS content, development of management controls, and management maturity within the organization. I gained insight into decision-making processes at the senior leadership levels. During the progression of the interviews, I comprehended the importance of appropriate performance metrics for the SMCS. My personal skills improved in conducting meaningful interviews, data collection, data analysis, and reporting of study findings.

Summary and Study Conclusions

The purpose of this qualitative single case study was to understand what strategies some oil sands company leaders use for critical planning, developing and implementing SMCS performance metrics to assure the effectiveness, and efficiency of the SMCS controls. I established organizational strategy and leadership, SMCS maturity development, stakeholder influence, regular management review, and performance metric

definition and data availability were significant factors affecting conceptualization of performance metrics for the SMCS. The findings may be beneficial to leaders for organizational awareness and development of strategies to integrate the SMCS with organization sustainability strategy and enhance organizational effectiveness. Greater understanding of opportunities to integrate sustainable development into operations and achieve economic growth with the assurance of environmental protection will assist leaders to manage sustainability performance, sustainability strategy integration, reduce operational risk to physical assets, employees, and enhance employee health and safety.

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Appendix A: Interview Questions

The following overarching research question for the proposed qualitative study will be investigated via personal interviews. How are key issues critical to oil sands leaders for planning, developing, and implementing SMCS performance metrics? The following subquestions will provide guidance toward greater understanding of related organizational complexities:

1. How do organization leaders initially generate the vision for a sustainability strategy?
2. How do external and internal stakeholders influence sustainability strategy formulation toward operational excellence?
3. How do external and internal stakeholders influence sustainability strategy formulation?
4. How do organizational leaders determine sustainability performance criteria?
5. How are appropriate performance metrics for the SMCS determined?
6. How important are transparent and accurate measurements for the SMCS?
7. How do existing sustainability performance metrics provide comparative information to inform organization leaders?
8. How do performance measures for the SMCS support organizational sustainability values, strategies, and measures?
9. How important are measurement standards to the creation of an organization-wide culture of operational discipline?

Appendix B: Organization Permission

Letter of Cooperation from a Research Partner

[redacted]

August 7, 2014

Dear Corné Mouton,

Based on my review of your research proposal, I give permission for you to conduct the study entitled The Sustainability Management Control System: Factors to Consider in Metric Conceptualization within Suncor Energy. As part of this study, I authorize you to:

- contact expert sustainability-management practitioners,
- conduct in-person interviews with open-ended questions,
- conduct sustainability-management practitioner observation,
- review multiple corporate documents related to the Operational Excellence Management System and operational excellence management,
- employ member checking to ensure data categories and themes are accurate,
- if requested, distribute a copy of the completed study to the participants.

Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: interviews with sustainability-management practitioners, the use of meeting rooms to conduct interviews, and access to corporate documents related to the Operational Excellence Management System and operational excellence management. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,
Authorization Official
Contact Information

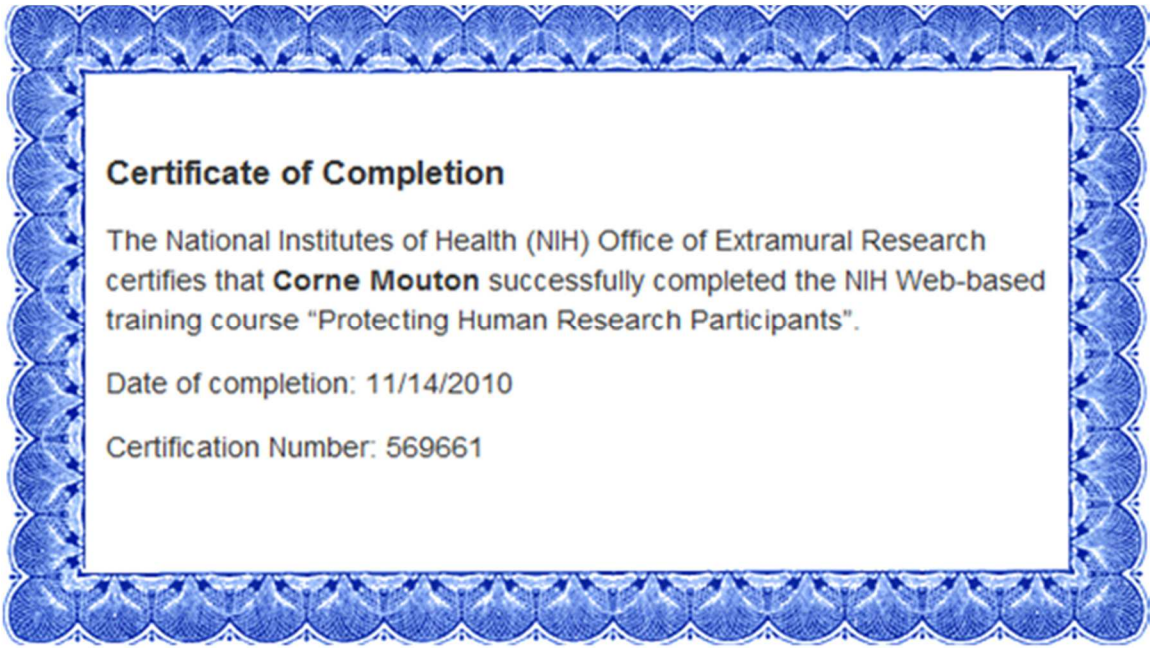
[redacted]

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the email, or (b) copied on the email containing the signed document. Legally an "electronic signature" can be the person's typed

Appendix C: Protocol Interview Guide

1. Introduction of participant and researcher
2. Ensure participant consent letter is signed
3. Review and discuss the intent of the research
4. Review confidentiality and interview times schedule (approximately 60 minutes)
5. Remind participant that the interview will be audio recorded
6. Discuss any questions or concerns
7. Commence recording and start with the interview questions
8. Conclude the interview and stop audio recorder
9. Allow participant to ask questions
10. Thank the participant
11. End protocol

Appendix D: NIH Certificate of Completion



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Corne Mouton** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 11/14/2010

Certification Number: 569661