ORGANIZATIONAL GROWTH: THE IMPACT OF LEAN SIX SIGMA ON FINANCIAL AND NON-FINANCIAL PERFORMANCE FOR NONPROFITS

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by

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By

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Abstract

The growth of the nonprofit sector has tremendously increased competition for donor funding, and this has resulted in the development of programs whose focus is on increasing the quality and efficiency of the services provided, reducing costs and meeting customer needs. These programs were modeled in the private sector but have over the years been used in the public sector and large nonprofit organizations, and include, the Lean Six Sigma (LSS), which is a widely used methodology for managing businesses through the entire value stream. Unfortunately, there is limited research showing the effects of Lean Six Sigma on nonprofit organizations. Therefore, this study focused on investigating the impact of integrating LSS for nonprofits as a business enhancement and process improvement approach, and factors influencing the success of the programs in both small and medium-sized nonprofit organizations. This study utilized a qualitative multiple case study research design and included a total of four Midwest nonprofit organizations. Interviews were conducted with the head of the continuous improvement or operational excellence department. The study findings revealed that measuring organizational performance using a more balanced set of performance measures is appropriate with Lean Six Sigma. I found that leaders in an organization must support

and participate in the program, and there must be a connection between the LSS department leadership and executive leadership to formulate a deployment roadmap. The current study demonstrates the need to implement Lean Six Sigma in nonprofits, the associated benefits, and how to prepare for the implementation of such programs to reduce the risks and costs.

DEDICATION

I dedicated this dissertation to my mother, Donnice Gray, who passed away during my first semester of the doctoral program. She encouraged me to pursue my dreams and finish what I start.

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Throughout the writing of this dissertation, I have received a great deal of support and assistance. I express my sincere appreciation to the members of my dissertation committee, Judy A. Alston, Ph.D., Committee Chair, Peter G. Ghazarian, Ed.D., Committee Member, and Robert Stoll, Ph.D., Committee Member, who worked patiently to help me complete this study. I want to acknowledge my colleague Dan Wooten for helping me identify my researcher partners. In addition, I would like to thank my sister for her patient support, wise guidance, and understanding throughout the process. Finally, I could not have completed this dissertation without the support of my friends, Nicole Simon and Wayne McPherson, who provided motivating discussions and exultant distractions to relax my mind outside of my research.

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CHAPTER I

Introduction

Nonprofit organizations are defined as organizations that perform any of the following roles: engagement in public tasks delegated to them by States, involvement in policy-making for both the for-profits and other nonprofits in the States, or participation in public tasks that neither the for-profits nor the State is willing to fulfill (Herman, 2011). The nonprofit sector contributed 5.6% of the U.S GDP in 2016, the most recent statistics that are available, which translates to approximately $1.047.2 trillion contributed to the U.S economy (Friesenhahn, 2016). Besides, over 1.54 million nonprofits were registered with IRS in 2016, which translated to a 4.5% increase from 2006 (Mitchell & Berlan, 2016). Nonprofits vary in both size and focus, which defines the support received from donors and volunteers.

The growth of the nonprofit sector has tremendously increased competition for donor funding, and this, in turn, has raised the public's attention on the effective and efficient use of the funds, through the measure of outcomes and monitoring of the expenditures that are directed to services (Mitchell & Berlan, 2016). This general trend not only affects nonprofits but also for-profit organizations, whether manufacturing companies or those offering services. This has resulted in the development of programs whose focus is on increasing the quality and efficiency of the services provided with reduced costs and meeting customer needs (Herman, 2011). Initially, such programs were modeled in the private sector and over the years, they have been used in the public sector and large nonprofit organizations, such programs include, Continuous Improvement

Programs (CIP), Balanced Scorecard (BSC), Lean Six Sigma (LSS), and Total Quality Management (TQM) (De Leon, 2016).

Competition for donor funding has increased the need for accountability and performance measures for nonprofit organizations, which is problematic especially for service-based organizations. However, in response to this, nonprofit organizations are adopting several programs that have been reported to produce the desired results. For example, the Children's Hospital of Minnesota adopted a Lean Management program, the Duke University Children's Hospital adopted the Balanced Scorecard, to increase their capacity and also reduce the waiting time (Tyagi et al., 2013). Tranholt-Hochstein (2015) reported the use of Lean processes by a Washington State food pantry to manage the company's growth and scale up the business across multiple locations.

Six Sigma and Lean processes were recently consolidated as a performance management practice, whereby they complement each other and are consolidated to a single technique referred to as the Lean Six Sigma (LSS) (Wortman, 2014). Lean Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects and waste in any given process, whether it is a service to a product, or manufacturing to transactional (Taghizadegan, 2014). The concepts of Lean Six Sigma have been around since the late 1800s, however, Lean Six Sigma was introduced to the world in the 1980s as a philosophy, methodology, strategic approach, and improvement framework (Wortman, 2014). LSS is a widely used methodology for improving the quality and a method for managing businesses through the entire value stream and has intensely focused on manufacturing organizations (Taghizadegan, 2014). Crabtree (2010 p. 329) has defined a value stream as "all the actions and information flow required by a current

process to bring a service or product from concept to end-user or customer; the goal of a values stream is to satisfy the customer." In early 2000, companies introduced LSS as a business improvement model for industries outside of manufacturing, such as healthcare, financial services, education, and insurance. The leaders of organizations about to embark on the LSS journey answer the following questions to develop support for the efforts the journey will require, (a) how well are we meeting our customers' and shareholders' needs?, (b) what is the potential of our current process? how do we measure the results of the first two questions?, (c) how do you know you have the right people working on the right things?, (d) and what has been the ability to change and implement change? (Beecroft, Duffy, & Moran, 2003).

Due to the proven benefits of LSS in the manufacturing sector, it is currently being integrated into the nonprofit sector as a business enhancement and process improvement approach. Unfortunately, there is limited research showing the effects of Lean Six Sigma on nonprofit organizations. A nonprofit organization is a corporation or an association that conducts business for the benefit of the public without shareholders and a profit motive (Nonprofit, n.d). Nonprofit organizations are experiencing increasing customer or client demands, making operational improvements more critical to the growth and success of these organizations (Glover, Poopunsri, & Hurley, 2014). There are over 1.5 million nonprofit organizations in the U.S., which bring in approximately $3 trillion in assets, and $1.7 trillion in annual revenues (Ittelson, 2017). They receive a substantial amount of capital from sources other than sales, thus have a huge impact on the US economy. Nonprofits play an important role in communities by providing critical services that contribute to economic stability (A Strong Nonprofit, 2016). Therefore, this

study focused on Lean Six Sigma in small and medium-sized nonprofit organizations to better understand the forces creating resistance to the application of these programs, if the organizations have attempted to implement the programs, and the factors influencing the success of the programs in both small and medium-sized nonprofit organizations.

Statement of the Problem

Over the years, nonprofits have received increased emphasis on accountability from donors and the public (Mitchell & Berlan, 2016). Besides, the nonprofits are requiring quantitative measures to demonstrate value and further receive support from donors. As such, a few nonprofits have shown great efforts in introducing practices of performance management theories that support responsive and effective organizations (Mitchell & Berlan, 2016). Lean Six Sigma is a performance management theory developed in the 1980s, with its foundation grounded on targeted development in manufacturing, and is reported to improve financial and non-financial performance.

Recently, LSS principles have shifted focus to other industries and sectors. However, limited evidence exists of the value of Lean Six Sigma in improving the efficiency and performance of nonprofit organizations. Nonprofits may be considered slow in deploying an LSS approach because they may be faced with challenges in the understanding of measuring and quantifying the financial benefits of a project concerning their operations. According to the National Center for Charitable Statistics (*The Nonprofit Sector in Brief*, n.d.), the majority of nonprofits do not use Lean Six Sigma to improve and grow their business, and this is one of the many reasons why there is limited research on the nonprofits. The question asked therefore is, why have nonprofits been slow in exploiting LSS in their organizations? Nonprofits do not necessarily measure their

success in terms of revenues, but rather in the service, they provide to clients or their satisfaction level. Therefore, there seems to be a knowledge gap or misconception about the use of LSS in nonprofit organizations (Sherman, 2018).

The American Society for Quality (ASQ) published a research report with the number of profit and fortune 500 companies using LSS. However, there was none or extremely limited research on nonprofit organizations using LSS. In the ASQ Six Sigma Business Solutions report published in 2009, 82% of the Fortune 100 companies were reported to use Lean Six Sigma. Overall, LSS has not been considerably applied to nonprofit organizations. Studies have revealed reluctance by small and medium-sized nonprofit organizations to implement such seemingly large initiatives (Taghizadegan, 2014). This reluctance may be influenced by several reasons that this study explored. There exists a gap in the literature on the application of Lean Six Sigma approaches to nonprofit organizations. Therefore, this study focused on Lean Six Sigma in small and medium-sized nonprofit organizations to better understand the forces creating resistance to the application of these programs, if the organizations have attempted to implement the programs, and the factors influencing the success of the programs in both small and medium-sized nonprofit organizations.

Purpose of the Study

The purpose of this qualitative multiple case study was to explore the forces creating resistance to the application of Lean Six Sigma in small, medium and large nonprofit organizations in the Midwest. Besides, the study explored if the organizations have attempted to implement the programs, and the factors influencing the success of the programs. Through this study, organization leadership in small, medium-sized and large

nonprofits can realize if their organizations are prepared for changes that occur following the implementation of new programs such as Lean Six Sigma. Besides, the study provides insights into the realization that small and medium-sized nonprofits have set up the infrastructure, expectations, and responsibilities that support the successful implementation of such programs for sufficient delivery of the expected results. This study provides insights into the need to implement Lean Six Sigma in small and medium-sized nonprofits, the associated benefits, and how to prepare for implementation of such programs to reduce risks and costs.

Significance of the Study

Studying the value of Lean Six Sigma programs in small, medium and large nonprofit organizations enhances an understanding of the forces creating resistance to the application of the programs. Besides, the leadership in small, medium and large nonprofit organizations may gain an understanding of how such a program can influence business outcomes, and the factors influencing the success of the programs. There are several reasons and misconceptions about why nonprofit organizations do not consider an LSS program. Some of the reasons and misconceptions include, that they are not manufacturing companies, LSS implementation requires a lot of resources, it's a fad, the organizations are too small, and lack of time for an LSS program (Sherman, 2018). Therefore, this study increased awareness and reduced the misconceptions of LSS as only a methodology for manufacturing companies.

This study demonstrates the value and benefits that align with such a program because any organization that has customers, a repeatable process, and aspires to improve on its performance can apply Lean Six Sigma to become more effective and efficient.

Efficiency is task-focused, on the other hand effectiveness is results-oriented. Goh (2015) stated that “being effective is about doing the right things while being efficient is about doing things right” (p). Nonprofit organizations use repeatable processes that could be reorganized and improved with Lean Six Sigma. This study provides direction and guidance to organizations that are considering deploying an LSS program.

Nature of the Study

This study utilized a qualitative multiple case study research design to explore the forces creating resistance to the application of Lean Six Sigma in small, medium and large nonprofit organizations in the Midwest. In addition, the study explored if the organizations have attempted to implement the programs, and the factors influencing the success of the programs. Yin (2018) has defined a case study as an empirical method that investigates a contemporary phenomenon in depth and within its real-world context especially when boundaries between phenomenon and context may not be clear. This is an exploratory research study that provides in-depth information on the implementation of LSS in nonprofit organizations.

Research Questions

There is limited research on the use of LSS in nonprofit organizations. This research study explored the forces creating resistance to the application of Lean Six Sigma in small, medium and large nonprofit organizations in the Midwest. In addition, the study explored if the organizations have attempted to implement the programs, and the factors influencing the success or failure of the programs. The study was guided by the following research questions:

1. How are small, medium and large NPOs in the Midwest using the Lean Six Sigma program?
2. What factors influence and contribute to the success of the Lean Six Sigma Programs in NPOs?
3. From the executive leadership viewpoint, what are the benefits, if any, of implementing the Lean Six Sigma program in NPOs?

Theoretical Frame

The theoretical frame of the study used contingency theory and balanced scorecard theory. Contingency theory suggests that there is no one best way to organize and lead an organization. Also, this theory states that there is not a one size fit all leadership style. The balanced scorecard theory provides a framework that enables measuring the factors that create value for an organization. These two theories provide a framework on how the organization structure, leadership, and strategic management performance metric impact an organization (Grant, 2010b). Both theories works in conjunction to comprehend if a person's effectiveness to lead others is contingent on their control of the situation and their leadership style. Along with this, the study explored the elements of the balanced scorecard used to measure performance. These two theories also complement each other in driving organizational growth through a strategic approach to combining leadership and performance measures, which is the basis for the study.

A theoretical framework is a collection of interrelated concepts that guides research (Vinz, 2020). The theoretical framework guiding this study was contingency theory. Fred Fiedler developed the Contingency Theory of leadership in 1958 when he researched leader effectiveness in group situations (Fiedler, n.d.). Fiedler believed that a

person's effectiveness to lead others is contingent on their control of the situation and the style of leadership (Fiedler, n.d.). Contingency theory is a leader-match theory which means that it tries to match leaders to appropriate situations (Northouse, 2013). The contingency theory of leadership was one of the first situational leadership theories. Situational leadership implies that different situations need different types of leadership. Situational leadership is defined as adjusting a leadership style to effectively respond to any change in work environments or demand of the situations (Kinsey, 2019). Contingency theory is about situations and certain conditions requiring the precise leader to effectively lead that situation.

The second theoretical frame applied in this study is the balanced scorecard theory. Robert Kaplan and David Norton created the balanced scorecard in the early 1990s. A balanced scorecard is an integrated set of performance measures that supports a company strategy and is used to identify and improve various internal business functions and their resulting external outcomes (Lim, 2019). The balanced scorecard theory came about because organizations recognized a need to measure business achievements on more than just financial statements. The performance measures used in balanced scorecards tend to fall into the following categories: financial, customer, internal business processes and learning (Noreen, Brewer, & Garrison, 2017). By isolating and analyzing these four categories, the balanced scorecard can provide information about the company and reinforces the behavior the organization wants through developing strategic initiatives and objectives.

Researcher's Lens

In this study, I was viewed through the lens of a Lean Six Sigma practitioner and business leader. A practitioner is someone practicing a skilled profession for which special education or licensing is required (Practitioner, n.d.). I have worked in various leadership positions with the responsibility to deploy Lean Six Sigma strategies in manufacturing and recently in a nonprofit (financial sector) environment. These experiences shaped the views, outlooks, and assumptions in this study. There seems to be an alignment between my lens and a theoretical perspective. The theoretical perceptive are the lenses through which people see things or the frame in which they include and exclude certain things from their interpretations (Lessons in Sociology, n.d.). It is important to understand my lens to have clear guidance on how some of the decisions in the study was made. Overlaying my lens with the theoretical framework provided great insights into how this process improvement methodology has eliminated problems, removed non-value adds, inefficiency, variations, and improved business conditions to provide a better response to customers' needs.

I was an instrument throughout this qualitative research study, and this occurred in the collection and analysis of data. As an outsider I had no relationship with the nonprofit research participants. I am a post-positivist and believe that educational background, career path, and personal life beliefs shaped this framework's connection. Post-positivists recognize that reality can never be fully known, and efforts to understand reality are limited due to human beings' sensory and intellectual limitations (Guba, 1990). Post-positivist attempts to create evidence that confirms or disprove a theory and test them through cause and effect relationships (Hesse-Biber & Leavy, 2011). My daily

activities involve solving business challenges and systematically looking for cause and effect relationships. I use different data analysis levels, in a logical format, to determine the probability of the outcome, which aligns with the post-positivist paradigm. I view things as processes or systems. I considered the study as a sequence of steps from multiple perspectives and deploy a calculated qualitative data collection and analysis method (Creswell, 2013).

Post-positivists are considered critical realists, who are critical of the reality that they study (Cook & Campbell, 1979). Post-positivists do not rely on a single scientific investigation method, and they believe that each process can have errors (Guba & Lincoln, 1994). The researcher's ontology and epistemological views help shape who they are, which defines their truth, belief, and justification. This allows them to bring logic to their thinking and helps put things into categories. As a result, my epistemological and ontological viewpoint is post-positivism.

Assumptions, Limitations, and Delimitations

There were assumptions, limitations, and delimitation attached to the study and things that had to be accepted, set boundaries around, and could not change. Clearly, understanding the difference between the study assumptions, limitations, and delimitations is important.

Assumptions can be defined as statements by the researcher that specific study elements are understood to be true. In this study, one of the assumptions was that the study participants provided data that was accurate and honest. Another assumption was that the study sample was a true representation of the entire population of nonprofit

organizations. Besides, the nonprofit organizations included were assumed to be using a similar LSS framework.

There were limitations to this study. Limitations are factors that are not regulated or measured during the study. This study was limited to LSS nonprofits in the Midwest. LSS is a fact-driven process of identifying a problem and working toward a solution, hence the selected sample may not be representative of all nonprofit organizations. Because this is a case study, the findings may not be generalized to an entire population. Another limitation was that some organizations lack a structured systematic way of tracking the impact of the LSS program, which could lead to the lack of reliable data. However, I minimized the effects of these limitations on the study by exploring all processes or performance measures. Besides, I incorporated a diverse sample size working at various levels in the organization from managers to other employees, to give the study a broader view of the impact of LSS. In addition, some of the nonprofits identified as an LSS company did not deploy the LSS methodology equally, comparison of the program was challenging. How LSS is deployed and used in different nonprofits could limit the results achieved. LSS also does not allow for the introduction of new tools or methods, and this would confound how the organization executes the process. The lack of previous studies in this research area of nonprofit organizations is an additional limitation. I minimized the study limitations during the actual study.

The study was initially designed pre-COVID-19 pandemic, and I had initially planned to visit each site as part of the study to make observations of the LSS implementation and collect data. I also had developed a relationship with the participants and did not want to start the search process all over. Therefore, I maintained the original

list of participants and conducted the interviews via an online platform, Zoom. Another limitation of this study was the lack of previous studies in this area. There was limited literature on this specific topic area, which could have helped lay a foundation to understand the research problem under investigation. The sample size was small, and the use of purposive sampling reduced the ability to generalize the findings because the sample was not representative of the population. Purposive sampling is also highly prone to researcher bias, and when participants are made aware that they have been selected to participate in a research project, they are likely to change their behavior. They might act in a certain way that they feel the researcher expects, and this may lead researchers to make biased conclusions.

Delimitations are the boundaries of the study. I explored LSS nonprofits to discover more about the implementation of these programs outside the manufacturing and to dive deeper into the deployment journey. One of the delimitations was that besides LSS, the organizations may have implemented other improvement programs available such as TQM, Kaizen, Value Stream Maps, Business Process Management, Agile, Change Management, and PDCA. The study examined the aspects related to the implementation of LSS programs in nonprofit organizations in the Midwest.

Definition of Terms

Contingency Theory. Is concerned with styles and situations and provides a framework to match the leader to the appropriate situation (Northouse, 2013).

Generally Accepted Accounting Principles (GAAP). Refer to a set of accounting principles, standards, and procedures distributed by the Financial Accounting Standards Board (FASB) for recording and reporting accounting information (Tuovila, 2020).

Financial Statement. A written record that displays the business activities and the financial performance of a company and includes a balance sheet, income statement, and cash flow statement (Murphy, 2020).

Lean Six Sigma. It is a data-driven deployment strategy for implementing value-added business improvement projects to improve efficiency, customer satisfaction, and profits (Keller, 2011).

Nonprofit. Is not existing, conducted, or maintained to make a profit (Merriam-Webster, n.d.).

Nonprofit Financial Statements. Statement of Financial Position (or Balance Sheet), Statement of Activities (or Income Statement), Statement of Cash Flows, Statement of Functional Expenses (Lang et al., 2017)

Non-Value Add. Activities that the customer is not willing to pay for and does not add value to the product or service (Harrington, 2013).

Performance. refers to results and outcomes from processes, products, and services that are evaluated and compared to goals, standards, past results, and other organizations. Can be expressed in non-financial and financial terms. (Administrator, n.d)

Statement of Activities (or Income Statement). Show money coming into the organization and money going out at a given point in time (Ittelson, 2017).

Statement of Cash Flow. Demonstrates where the organization's cash came from and how cash was used for a period of time (Ittelson, 2017).

Statement of Financial Position (or Balance Sheet). Describes the assets and liabilities of the organization at a point in time (Ittelson, 2017).

Theory of Constraints. An approach to managing business operations within an organization by identify the factors and constraints that hamper the achievement of business goals, then improve the business operations by eliminating the constraints (Sproull, 2019).

Value Add. Activities that an external customer is willing to pay for and transforms the product, service, or information to meet customer needs (Taghizadegan, 2014).

Value Stream. The specific activities required to contribute to creating a flow of value for products or services, as determined by the customer (Keller, 2011).

CHAPTER II

Introduction

Deploying Lean Six Sigma in the nonprofit sector has the opportunity to have a similar or more significant impact on processes, services, products, and customers, similar to the results that the profit sector is realizing. LSS is a popular and important process improvement methodology in the field of quality and performance management. This section contains a literature review regarding the implementation of Lean Six Sigma in Nonprofits.

The section discusses the most important benefits, restrictions, leadership aspects of nonprofit organizations. The literature review synthesizes the current knowledge related to the impact of LSS, LSS in nonprofits, and how to measure financial performance. Framing the research through balanced scorecard theory and contingency theory provides a view of leadership guidance in non-profit organizations.

Search Description

The literature reviewed focuses on studies published in peer-reviewed journals, research documents, publications, conference proceedings, and scholarly books. Information was gathered from various data sources using search engines, including Google Scholar, MasterFILE, Business Sources Premier EBSCOhost, OhioLINK Library Catalog, ProQuest, and ProQuest Digital Dissertations via the Ashland University Library. The following keywords were used in the search to find appropriate and relevant articles: *lean six sigma, financial management, nonprofits, contingency theory, balance scorecard, operational excellence, performance metrics, customer satisfaction, change management, measurement, analysis, improvement of organizational performance, and*

data-driven decision making. There were approximately 350 sources included in the review, and most of the sources had been published within the last ten years. The study was revised not to include the Change Management theory because it lacks alignment with the study. This reduces the actual sources used to approximately 230.

Impact of Lean Six Sigma

Lean Six Sigma is a powerful business strategy that focuses heavily on satisfying customers (Tranholt-Hochstein, 2015). LSS empowers people to create process constancy and a culture of continuous improvement. Various tools and methods are deployed throughout the LSS framework to drive improvements in processes and systems (De Leon, 2016). The foundation and significant contributors to LSS introduced key concepts and tools in the 1890s (Tranholt-Hochstein, 2015). Various companies have utilized the tools to improve and grow their business.

Lean Six Sigma is the union of two theories and methodologies (Lean and Six Sigma) that work together to improve process outcomes (De Leon, 2016). Six Sigma focuses on reducing variation and enhancing process control, while Lean focuses on reducing waste and enhancing process flow (Tranholt-Hochstein, 2015). Together, these two methodologies are a disciplined, fact-based, data-driven strategy of improvement that drives customer satisfaction and a company's earnings and profits through projects to eliminate non-value adds (Keller, 2011; Kubiak, 2012; Taghizadegan, 2014). In an LSS environment, project teams focus on real-world problems that impact customers and processes. An LSS project can show the relationship between, and, measure the impact of, financial and non-financial performance measures and lead to superior financial

performance by addressing business needs by driving innovating processes inside a company (Dumitrescu & Dumitrache, 2011).

For the LSS program to work efficiently, managers at all levels must commit and support the process by providing employees with training, knowledge, and authority to solve problems (Wang & Chen, 2010). There are different levels of training in an LSS initiative and program. The training varies from 2 days to 12 weeks depending on the certification level. Here are the roles in an LSS deployment: Executive Sponsors are leaders who set the direction and priorities for the organization; Champions are upper-level management that leads the LSS execution; Black Belts are full-time process improvement experts who leading key projects and training, and mentoring staff; Green belts are project leads or teams members who help collect and analyze data, develop process maps, and assist the Black Belt; Yellow Belts are individuals who attain basic LSS knowledge and are team members on projects (Kubiak, 2012; Shaffie & Shahbazi, 2012; Wei & Arbelaez, n.d.; Wortman, 2007).

External (customer and environmental) changes have forced organizations to introduce ways that remain sustainable and meet customers' expectations by reducing the variations and waste in the system (Kaswan & Rathi, 2019; Kubiak, 2012). Several companies have experienced positive results from Lean Six Sigma. Bank of America understood the impact of implementing Lean Six Sigma in their organization as it provided a set of performance metrics to assess the performance of their operation (Hajikordestani, 2010). Caterpillar Inc. realized the need for tools to analyze the problems, make the changes, and develop the company's growth (Gillett, Fink & Bevington, 2010). General Electric realized the need for improvements as they noticed

the organization had many setbacks (in profits, market share, and the share price) which required reconstruction and they used the Six Sigma problem-solving framework such as DMAIC, DFSS and DMADV and statistical tools and software to drive business results (Schmidt, Sousa-Zomer, Andrietta, & Cauchick-Miguel, 2018). 3M installed Lean Six Sigma methods and tools to improve operations and quality (3M - Lean Six Sigma and Sustainability, 2020). These organizations had one thing in common with successful LSS programs, which was leadership involvement. Leadership has been identified as an important success factor for Lean Six Sigma deployment in organizations (Kubiak, 2012; Laureani et al., 2015; Taghizadegan, 2014).

Although there have been numerous successful implementation of a Lean Six Sigma program, there have also been unsuccessful deployments. On the other side of this, leaders who sponsor the LSS initiative without the necessary patience, experience, commitment, knowledge, and interest to see it through successfully, cause failed deployment (Burton, 2011; Creasey, Stise, FitzSimons, & Birky, 2016). LSS is a methodology to create and deploy change in organizations and the Process has defined the reason for failed changes; not defining the future state and not using a multi-faceted approach (Creasey, n.d.). Nonprofit organizations are faced with several challenges from growing demand for their services, pressures to incorporate services fees, and competition from for-profit organizations (Lassiter, 2007).

Lean Six Sigma can be separated into two methodologies based on the desired outcome. The two methodologies are Define, Measure, Analyze, Improve, Control (DMAIC) and Define, Measure, Analyze, Design, Verify (DMADV) (Keller, 2011). DAMIC is the core methodology of LSS and focuses on improving an existing process,

while DMADV focuses on creating a new product or process or completely redesigning a product or process (Anderson, 2019; Pyzdek & Keller, 2019). The business needs to determine which methodology is to be deployed.

The DMAIC methodology is applied in various companies to achieve improvements in value, cost, distribution. A service organization applies the six sigma DMAIC practice to enhance the understanding of the process, process improvements, and process variations by focusing on inputs rather than outputs (Narula & Grover, 2015). A metallurgical operation used a DMAIC project to improve the quality of the product delivered to the internal customer by reducing the defects of delivered products (Girmanova et al., 2017). A sand-casting process adopting the six sigma approach improves efficiency and performance resulting in time and cost savings (Kumaravadivel & Natarajan, 2013). A food processing company applied DMAIC methods to identify and eliminate bottlenecks and reduce defect rates with a focus on the production and packaging departments (Nandakumar, Saleeshya, & Harikumar, 2020). An aluminum company utilized the approach and reduced the cycle time from 47 days to 20 days, resulting in order compliance, elimination of slippage, inventory reduction, and process control (Ganguly, 2012). A hospital was able to reduce the length of hospital stay by 42% by identifying variables through the LSS process (Improta et al., 2017). The LSS DMAIC has been successful at aiding organizational growth.

Organizations not only improve existing processes utilizing DMAIC but they design new processes utilizing the DMADV methodology. DMADV is also referred to as Design for Six Sigma (DFSS). The Hyperloop between San Francisco and Los Angeles developed a DMADV approach to understand Hyperloop operations and determine the

number of pods required to fulfill the demand (Rajendran & Harper, 2020). This was done by gathering data, developing a simulation model, and analyzing results to propose an efficient network operation. The DMADV methodology was implemented to improve the cost and quality of surveillance cameras (Huang, Chen, & Chang, 2010). The DMADV process was used to develop a brand sound for customers by investigating customer preference (Arvanitis et al., 2015). DFSS was used to design an improved version of a combustion system of a diesel engine using the effects of various design parameters on the performance of the diesel engine (Wang & Hwang, 2019). Companies that want to design new products, processes, or services have installed the Six Sigma principles in the DMADV or DFSS methodology.

A Lean Six Sigma level of performance can be defined as a process that has no more than 3.4 defects per million opportunities (DMPO). LSS focuses on the reduction of defects and waste in products, services, and processes, and achieving the 3.4 DPMO is equivalent to a quality level of 99.9997% (Ganganallimath et al., 2019; Garrido-Vega, Sacristán-Díaz, & Magaña-Ramírez, 2016). Table 2.1 below displays the various LSS levels of performance and the corresponding defect per million-opportunity level.

Table 2.1. *The various LSS levels of performance and the corresponding defect per million-opportunity level (Wortman, 2007).*

Sigma Level	**DPMO**
6 sigma	3.4
5 sigma	233
4 sigma	6,210
3 sigma	66,810
2 sigma	308,770
1 sigma	697,672

Although the Sigma Level is the most common Lean Six Sigma metric, other metrics are used to quantify LSS performance such as Rolled Throughput Yield (RTY), Defects per Unit (DPU), Defects per Million Opportunities (DPMO), and First Pass Yield (FPY).

Research between 2006 and 2020, discovered that lean and six sigma are not mutually exclusive. Organizations recognize that they experience various problems (defects, customer complaints, waiting, and delivery issues) that lean six sigma can resolve. An increasing number of organizations in many industries have been combining their efforts in a lean six sigma tactic. Utilizing the lean six sigma approach, organizations achieved bottom-line results, clearly defined measures of success, and achieved customer, and process focus. Whether businesses are producing products, providing services, redesigning processes, there are elements of waste and variation that lean six sigmas have corrected.

Lean Six Sigma in Nonprofits

Lean Six Sigma is a methodology and philosophy that improves quality and value by finding the root cause of the problem through statistical analysis. Slowly nonprofit organizations are transitioning to a Lean Six Sigma business strategy to improve the performance of the organization. Nonprofit organizations are experiencing increasing pressures and challenges such as ongoing organization effectiveness, customer and client demand, competition, continued growth and success, attraction of new customers, generate and manage income, manage staff, and identifying better ways of improving the output of our work (Behling, 2014; De Leon, 2016; Glover, Poopunsri, & Hurley, 2014). Outside of the healthcare and the government sector, there is little information about the deployment of Six Sigma in nonprofit organizations (McKeon et al., 2010).

Nonprofits are constantly motivated to improve performance through expansion in services, new funding sources, and increasing the organization's employee or volunteer base (Lassiter, 2007). Nonprofits' success is often measured by how well the organization fulfills its mission and not how much profits they can achieve because profits can drive the wrong behavior (Sampson, 2004). Nonprofit, payload process improvement through lean management. Maria's Bakery a nonprofit sheltered employment center used LSS to improve their operation time by 40% and operation distance by 39% (Wang & Cheng, 2012). The Greater Boston Food Bank's achieved tremendous results through an LSS project. They reduced the operational lead-time for non-perishable order picking from 24 hours to less than 4, and the lead time to fulfillment, to less than 20 minutes (Glover, Poopunsri, & Hurley, 2014). Virginia Mason Medical Center achieved reduced inventory costs by 51%, walking distance for staff by

34 miles, lead times by 708 days, and declined defects by 47% (Weber, 2006). Historically, nonprofits organizations have used more of a Lean Management approach to optimize processes and used the Value Stream Mapping tool to achieve improvements in business metrics (Sampson, 2004).

The objectives of Lean Six Sigma are to improve customer satisfaction, quality, increase process speed, and reduce costs. These same elements apply to nonprofits. There has been a conversation about if there is a difference in eliminating LSS in nonprofit versus other sectors. Behling (2014) said the following:

> I do not consider implementing Lean in the nonprofit world to be any different than implementing lean in a for-profit world. The challenges are no different than those found when implementing lean in settings in which the culture and purposes of the work differ, such as manufacturing versus an office setting. (p 37).

The Assistive Devices Service Center for people with disabilities applied Lean Six Sigma tools and principles to increase the efficiency of resource management in physical disabilities services by decreasing the non-value-added process by 70% (Cheng & Chang, 2012). An emergency department of a hospital used LSS to enhance productivity, efficiency, and effectiveness and improve hospital performance while developing team members (Stanton et al., 2014). Although there is limited research that highlights the impact of LSS, there have been significant results of the initiative such as decreased time to deliver food to hurricane victims, cut costs for mosquito nets and office supplies, and reduced volunteer sign-up times for Big Brothers Big Sisters (Hurley, 2018). Lean six sigma is slowly growing in nonprofits. Friends of the Children, The Akron Children's Hospital, and graduates of the University of North Florida engineering and business

departments in Jacksonville, Florida have all used Lean Six Sigma principles to improve business performance and save money (Putting Six Sigma, 2018).

Measuring Nonprofit Organization's Performance

Executives use financial statements to assess the performance and identify areas for improvement (Ittelson, 2017). Competitive and financial pressures in the nonprofit sector have led to an increased emphasis on performance measurement. There is no single measure that is fit to capture all nonprofit activity completely (Lang et al., 2017). Performance measurement in nonprofits differs from those in profit organizations because the focus is different. The impact of employee overcompensation on nonprofit donations varies based on the organization's financial performance. Nonprofit organizations use performance measurement to demonstrate the effectiveness and efficiency of internal operations (Lang et al., 2017). Although nonprofit managers strive for accountability and outcome realization, they must consider their performance measurement strategies.

A nonprofit organization has a slightly different set of financial statement names than the statements supplied by a for-profit organization. The financial statements issued by a nonprofit are as follows: statement of financial position, statement of activities, statement of cash flows, and statement of functional expenses. The statement of financial position shows the assets and liabilities of the nonprofit at a given point in time (Lang et al., 2017). The statement of activities measures the revenue and expenses of a nonprofit entity for a reporting period (Bragg, 2018). The statement of cash flow summarizes the organization's payments and deposits for a given period of time (Ittelson, 2017). The statement of functional expenses shows a comprehensive breakdown of expenses by

expense type and by program and supporting services (Lang et al., 2017). These financial statements provide a summary of the nonprofit organization's financial position and activities.

Performance measurement in the nonprofit sector is complicated because nonprofits often pursue missions which are difficult to measure (Bryson, 2011). Some research has suggested that financial measures might not be appropriate for nonprofits as non-financial performance measures because they are mission-driven and not profit-driven (Jaskyte, 2020). Some of the common measures used by nonprofits include workload and output indicators, unit cost and efficiency measures, outcomes and effectiveness measures, client or customer satisfaction indicators, external audits, and industry standards and benchmarks (Carman, 2007). A set of factors within the nonprofit environment that influence performance measurement systems and practices are funders, educational and training institutions, and IT vendors while organizational structures and processes that support performance measurement are the related strategies of incorporating user voices into system design processes and ensuring appropriate data system access (Carnochan et al., 2013).

Financial performance measures have been used to predict a variety of measures such as financial reporting standards compliance (Verbruggen, Chistiaens, & Milis, 2011), charitable donations (Tinkelman & Mankaney, 2007), fundraising outcomes (Scherhag & Boenigk, 2013), innovations (Jaskyte, 2013), executive compensation (Sedatole et al., 2013) grant amount (Ashley & Faulk, 2010), and advocacy activities (Hasenfeld & Garrow 2012). Nonprofits, such as city and federal government agencies, and hospitals, use the Balanced Scorecard criteria to see a balanced view of

organizational effectiveness and improve their organizational performance (Arshad et al., 2015; Evans, 2004; Kaplan, 2001; Langabeer & Galeener, 2008; Lee & Nowell, 2014; Messeghem et al., 2017). As stated earlier, the Balanced Scorecard measures are learning and growth, business processes, customers, and finance. The Balanced Scorecard measurement system for nonprofit organizations has shifted the organization's focus from programs and initiatives to the outcomes that enable them to bridge the gap between mission, strategy, and day-to-day operational actions (Kaplan, 2001).

Research has suggested that "above-median employee compensation decreases donations in organizations when the organization's financial performance is below average, but the negative impact is mitigated as the organization's financial performance continues to improve" (Yan & Sloan, 2014, p.9). Financial ratio analysis is a helpful financial tool for nonprofit organizations. Historically the financial performance index (FPI) such as return on assets (ROA), operating cash flow per bed (CASHBED), operating margin (MARGIN) and total asset turnover (TATURN) ratios measure were an effective measure of overall financial performance (Ozcan & Mccue, 1996).

Nonprofit financial managers use financial data to drive business decisions. More recently, some of the performance measures used to measure financial performance are workload and output indicators, unit cost and efficiency measures, outcomes and effectiveness measures, client or customer satisfaction, external audits, and industry standards, and benchmarks (Leroux &Wright, 2010). Some managers have indicated that frontline workers do not understand the measures upon which performance would be assessed (Jolles et al., 2017). Nairobi Securities Exchange organization in Kenya that has operational efficiency and financial leverage positively influences the financial

performance metric, Return on Assets (ROA) but financial leverage is not identified as being significant (Otieno & Ngwenya, 2015). Organizations like Neighbor Works used the following measures to evaluate the financial condition: public support, and fiscal performance, fundraising efficiency (Ritchie & Kolodinsky, 2003), dependence on contributions and grants, program demand, revenues per employee, days in payables, and defensive interval ratio (Myser, 2016).

Organizations with a mature performance measurement system have better results in terms of customer, financial, and market results (Evans, 2004). There are serval ways nonprofits can measure performance, and having so many measures could be one of the reasons why practitioners say it is challenging to estimate nonprofit performance. Nonprofit organizations have several performance measures to choose from; financial measures; client satisfaction; management effectiveness; stakeholder involvement; and benchmarking (Boateng, Akamavi, & Ndoro, 2015). A six-categories framework (input, capacity, outputs, outcomes, and public value) is used to state the main perspectives of nonprofits (Arshad et al., 2015; Epstein & McFarlan, 2011; Lee & Nowell, 2014). These financial and non-financial measures for a nonprofit organization are used to measure its advancement in fulfilling its mission, its success in assembling its resources, and its staff's effectiveness on the job. Over the past 15 years, researchers have discovered that a nonprofit's performance measurement can respond to many of its challenges. Data can provide a critical element that allows them to display their efforts and successes while increasing capacity and improving return on investments.

Theoretical Frame

Contingency Theory

The contingency theory of leadership was developed by Fred Fiedler in 1958 while he was researching leader effectiveness in group situations (Fiedler, n.d). Contingency theory emphasizes the importance of both the leader's personality and the situational context in which the leader operates (Hoffman-Miller, 2019). A contingency approach identifies the difficulties involved in managing modern organizations but uses patterns of relationships or outlines subsystems to facilitate an enhanced practice (Kast & Rosenzweig, 1972). The contingency approach is the understanding that what works in one setting, or at one point in time, may not work in another and that efficiency is related to the ongoing alignment of various contingencies (Bradshaw, 2009).

Although contingency theory has similarities to situational theory, both theories contrast with the scientific management theories of industrial management expert Frederick Winslow Taylor and social theorist Max Weber (Hoffman-Miller, 2019). Unlike the situational theory of leadership, leader effectiveness is contingent on the leader's style matching the situation, not adapting to it (Fiedler, n.d). A leader is most effective when his or her attributes and style of leadership is matched with the situation and environment around them (Gupta, n.d.). The situational approach claims that the most effective management concept or technique depends on the set of circumstances at a point in time (Carlisle, 1973; Dessler, 1976; Luthans, 1976).

Contingency theory is a complex approach and with this comes criticisms, challenges, or problems. Miner (1984) argued that the contingency theory has low scientific validity and has questionable usefulness in an application. Schoonhoven (1981)

stated that contingency theory is not a theory but an orienting strategy or metatheory, suggesting ways in which a phenomenon ought to be abstracted or an approach to the phenomenon should be explained. Tosi and Slocum (1984) argued that contingency theory cannot be tested empirically, and therefore cannot become a central model. It is important to note that these challenges will exist in a nonprofit context. Anthony and Govindarajanc (2004) argued that organizational performance is more difficult to conceptualize in a nonprofit organization compared to a commercial organization. This argument centers around the nonprofits' legal constraint on distributing profits (Anthony & Govindarajanc, 2004). Gill (2011) advised that contingency theories do not account for the position of the leader or how styles change. Besides, they do not explain the processes behind how leadership styles vary according to factors such as the organization or the position of the leader within the structure.

In a business environment, several contingency factors have been identified that may be relevant for them to be effective and include strategy and structure (Brown & Iverson, 2004; Silva & Fernandes, 2019; Young, 1992), resource uncertainty (Guo, 2006; McKay et al., 2015), the external environment (Foster & Meinhard, 2002; Oliveira & Callado, 2019; Saidel & Harlan, 1998; Malallah Mahmood Albalaki, F., Abdullah, Z., & Kamardin, H., 2019; Stone, Hager, & Griffin, 2001), size (Cornforth & Simpson, 2003), and life-cycle (Xu, Zhang, & Li, 2016; Dart, Bradshaw, & Wolpin 1996). There have been attempts to combine several contingency models into a combined theory that brings together the individual, organizational, and environmental factors (Gimzauskiene & Kloviene, 2010; Hunter, 2015; Kast & Rosenzweig, 1973; Nemiroff & Ford, 1975). In addition to the factors listed above, some variables vary with certain situational factors

such as leadership style (Kuchynková, 2016; Fiedler, 1967) decision making (Conway, 1976; Davies, Beatrice, Van Der Heijden, & Stephenson, 2017; Mintz &Currim, 2015; Singer, 1974; Wisniewski, Forstmann, & Brass, 2019) and organizational structure (Donaldson & Joffe, 2014).

A contingency approach is dynamic and it changes according to the situation. Leaders change or adjust processes and procedures according to the situation. Bradshaw (2009) suggested highlighting the contingencies in nonprofits, stating that a change management process is missing and that can help boards reflect on their choices regarding governance. A contingency approach helps managers and boards enhance their leadership and decision-making skills through different approaches to allow them to achieve organizational level success (Müller, Zhai, & Wang, 2017).

Therefore, researchers from the 1960s to 2019, discovered that the contingency theory has been applied to a variety of environments. Ruekert, Walker, and Roering (1985) explained that environments that are dynamic and uncertain, with low levels of formalization and centralization and are more effective due to flexibility, innovativeness, and adaptiveness. Contingency theory is a unique leader's theory that claims, based on internal and external influences, there is no one best way to lead an organization.

Balance Scorecard Theory

The balanced score was introduced in 1992 by David Norton and Robert Kaplan. No single measure provides a complete picture of the performance of the organization. Cunha Callado and Jack (2015) stated that the balanced scorecard can be the most completed strategy development and performance measurement tool. The balanced scorecard methodology provides an integrated framework for balancing financial and

strategic goals and cascading performance measures down the organization (Grant, 2010a). The balanced scorecard got its popularity because of its ability to capture the essence of an organization and create opportunities to meet the needs of its various stakeholders (Pandey, 2005). David Norton and Robert Kaplan took performance measures and modified them to include nonfinancial information. In 1992, *The Harvard Business Review* published an article on The Balanced Scorecard - Measures That Drive Performance that explained the balanced scorecard theory. The balanced scorecard allows managers to look at the business from four perspectives, customer perspective, internal perspective, innovation and learning perspective, financial perspective (Kaplan & Norton, 2014).

Brutu (2010), emphasized some of the results of the balanced scorecard which are, enhanced information systems, improved processes, motivated or educated employees, and monitored progress. Balanced measurement encompasses measuring both financial and non-financial performance (Meyer, 2009). Non-financial performance measures provide managers with timely information focused on the causes and drivers of success and can be used to design evaluation systems (Banker, Potter, & Srinivasan, 2000). The Balanced Scorecard (BSC) concept, which is popular in the profit sector, both as a performance measurement and improvement framework has made its way to the nonprofit sector (Alfirevic et al., 2005). Government and nonprofit organizations are using the Balanced Scorecard as their performance management system to maximize effectiveness (Niven, 2008). The balanced scorecard framework guides organizations in translating strategic objectives into a set of performance indicators.

The balanced scorecard has been practiced in various ways. One of the uses for it has been for organizational strategy development (Brown, 2012; Fernandes et al., 2006; Hendricks et al., 2011; Jackson, 2019; Team, 2019; Tizroo, Esmaeili, Khaksar, Šaparauskas, & Mozaffari, 2017). An organizational strategy is an action a company intends to take to achieve long-term goals. Organizational strategies are derived from the strategic planning process. There is a direct connection between strategy and a balanced scorecard and the performance measures are tailored to the strategy of the organization (Noreen, Brewer, & Garrison, 2017). Other uses for a performance management system are decision-making, continuous improvement, and identifying common patterns in becoming a more intelligent organization (Kale, 2017). Niven (2010) provides insights and practical solutions for developing performance objectives and measures that translate strategy, generating executive support, and assembling the right team. The balanced scorecard had been involved as a collaborative approach that identifies the connection between organizational capacity, market and financial outcomes, business process, customer value, performance, and stakeholder satisfaction (Rohm & Montgomery, 2011).

Norton (2010) stated in an article from Balanced Scorecard Report that 62% of organizations used the balanced scorecard as their organization framework while only 13% relied on total quality management (TQM) and 3% on shareholder value. Balanced Scorecards have been effective in large organizations, medium and small organizations (Von Bergen & Benco, 2004). Kaplan proposed a revised version of the balanced scorecard framework for nonprofits that places the organizational mission on top to align with the financial perspective and customer perspective, and are followed by the internal focus and innovation (Kaplan, 2001). With the success of the balanced scorecard,

organizations have introduced their version of the scorecard. A nonprofit health organization introduced its version of the scorecard; capacity and infrastructure, societal engagement, nonprofit competitiveness, and financial flows (Kushner, 2018). A university introduced its version of the scorecard; research, teaching, and service (Barndt, McGee, & Cataldo, 2011). Organizations are taking the original scorecard and making it their own. Educational organizations use the balanced scorecard to build a strategy map that is used to identify its strategic themes by analyzing the following seven zones: stakeholders, competitive environment, enablers, life cycle, vision, customer, risks (Tohidi, Jafari, & Afshar, 2010).

Although organizations are measuring performance, organizations can still be dissatisfied with their performance measurement system. Those that have lacked to accept the balance scored correlate this with inadequate communication with the organizational leadership (Chen & Jones, 2009). Measures of performance are identified as one of the organizational concerns stated by nonprofit executives and board members (Aulgur, 2012). The ongoing search for non-financial predictors of financial performance has too many measures, and the performance measurement systems do not support management objectives well and are a cause for dissatisfaction (Meyer, 2002). Performance management helps people to perform to their best capability to produce efficient and effective high-quality work (Tardi, 2020). Kong (2010) highlighted that the balanced scorecard is less effective in nonprofit organizations because the strategy, cause-and-effect relationships, and perspectives are incompatible with the nonprofit environment. When nonprofits try to introduce the balanced scorecard in the organization, they have to make adjustments. When moving the framework from the

profit to the nonprofit sectors, the main change is to elevate the customer perspective, which now represents citizens and constituents, to the top perspective of strategy maps and scorecards (Frigo, 2012). One of the modifications is the replacement of the financial perspective with a fiduciary perspective (Sayed, 2013). Along with this modification to the original perspective, there are nonprofit perspectives that have replaced the original perspective: diversity, people and infrastructure service, and outreach, institutional management and leadership, outreach and engagement, investment in the future, stewardship, customer and stakeholders, organizational development, financial accountability, program products or outputs, adherence to standards of quality in service delivery and client satisfaction (Niven, 2008; Sayed, 2013).

Based on Kaplan and Norton's experience, they have been many stories of successful implementation of the balanced scorecard in large companies. They have also identified times when the performance management system has failed; design and process. Rompho (2011) acknowledged that a major cause for the balance scorecard failure was due to the company’s frequent strategy changes, while Grant (2010b), detailed the problem with performance management being that the performance goals are long term but need to be monitored over the short term. The more complex the organization, the more difficult it is to understand the actual performance of the organization (Meyer, 2009). Design refers to a poorly balanced scorecard process based on the following factors; lack of senior management commitment, keeping the scorecard at the top, too few individuals involved, hiring inexperienced consultants, overly long development process, introducing the balanced scorecard only for compensation, treating

the balanced scorecard as a one-time measurement project and treating the balanced scorecard as a systems project (Kaplan & Norton, 2001).

To further expand on the case study proposed by Rompho, he discussed that the balanced scorecard measures were revised many times because strategy changes due to the rapidly changing business environment, and the frequent revision made it impossible to track the cause and effect relationship between measures (Rompho, 2011). The result of a prediction model suggested that larger, more decentralized organizations and organizations in the banking, chemical, and utility industry are more likely to adopt the balanced scorecard (Yancy, 2017).

Therefore, the balanced scorecard has been applied in several industries for various reasons, and have had positive and negative outcomes. Organizations continue to modify the original balanced scorecard measures to meet their requirements, and it is now combined with other methodologies, such as lean six sigmas, to achieve the greatest outcome and to improve organization performance. Lean six sigma is a deployment strategy for implementing improvement projects that align with the organizational need to deliver value (Keller, 2011). Organizations in the banking industry use the balanced scorecard and lean six sigma methodology to align strategy, improve process performance, and improve customer satisfaction (Bazrkar, Iranzadeh, & Farahmand, 2017).

The literature review displayed the impact of Lean Six Sigma in various industries. The Impact of Lean Six Sigma was about bringing together two methodologies (Lean and Six Sigma) to help organizations grow. Lean Six Sigma displays a tremendous impact on the financial and non-financial measures through the

association of the DMAIC methodology. Although not every organization experiences successful outcomes, the overall view of the method is optimistic. Lean Six Sigma in nonprofits was about organizations that have deployed the LSS methodology in their organization to enhance productivity, efficiency, and effectiveness. Measuring nonprofit organizational performance was about the complications of measuring nonprofit performance. Research suggested that financial measures are not appropriate for nonprofits because they are mission-driven. In summary, there is limited research on the influence of LSS in a nonprofit setting to enhance financial or non-financial performance. This exploratory study provides insight and builds upon the lack of research into the value nonprofits have experienced in their organization through the LSS framework.

CHAPTER III

Research Design

A qualitative multiple case study design was proposed for this research study. Creswell, 2013 describes case study research as the following:

> Case study research is a qualitative approach in which the investigator explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information and reports a case description and case themes. (p. 97)

A multiple-case design is a case study design in which several contributing confined cases are selected to develop a more in-depth understanding of the case than a single case can provide (*Multiple-Case Design*s, n.d). Applying a multiple case study design allows numerous perspectives to be gained based on Lean Six Sigma practices in a nonprofit environment.

A multiple-case research design was used for this study to explore how a Lean Six Sigma program impacts nonprofit organizations' financial and non-financial performance. There is limited research on this topic, and I selected multiple cases to obtain a holistic view and more comprehensive discovery of theoretical developments and research questions. Limiting the case study to one case would bound a deeper understanding of the LSS in nonprofits. I avoided solely focus on similarities between and across cases but looked at the particulars that vary across cases (Hesse-Biber, & Leavy, 2011). Multiple case designs allow me to analyze what is going on within a case and between cases. This design relies on multiple sources of evidence to understand the program's impact and to investigate the case within a real-life context or setting.

This design allowed the study to move from a question to an answer through data collection and analysis. Each case in the study was carefully selected so that the individual case studies either predict similar results or produce contrasting results for common reasons (Yin, 2018). Data collection was performed through document analysis, interviews, and focus group discussions on understanding the LSS program and framework in non-profit organizations. Fieldwork was also identified as a data collection method to observe, interact and understand people while they are in a natural environment. Due to the COVID-19 pandemic, the participants were uncomfortable with in-person observations and interactions.

The case study design permits one to present the data collected from multiple methods. The multiple-case design is considered to be more persuasive, and vigorous than a single case design (Yin, 2018). The multiple cases allow a wider exploration of the study topic (Eisenhardt & Graebner, 2007). Overall, a case study is a way to inspire new research, and the multiple case design approach exemplifies the topic across multiple cases.

Setting

A total of four Midwest nonprofit organizations were chosen for the study. The settings were different for each case based on the size of the nonprofit organizations. All the nonprofits were located in or near downtown within selected major cities in the Midwest. The population where the nonprofits were located were between 200,000 and 400,000. The cities have major attractions such as sports teams, hiking trails, and lakes. The cities where the nonprofits are located can be described as urban cities. These cases were selected because of their nonprofit status, location, and application of LSS their

organization. Besides, they have enhanced the organization's performance by deploying an LSS continuous improvement strategy in various parts of the organization. The study was conducted during normal business hours, and a common project area or conference room was used for in-person meetings and Zoom for virtual meetings.

The management representative in each nonprofit organization was contacted to obtain approval for participation in the study and to allow employees to be interviewed. Once permission was obtained, interviews with the study participants, including business executives or managers, was scheduled. If it was not for COVID-19, the interviews would have been conducted at the sites where value is created using LSS. This would have enabled me to obtain a better overall understanding of the process where LSS implementation occurs within the organizations. Due to the current COVID-19 pandemic, participants were not available for face-to-face interviews, but having reliable information on LSS implementation in the organization, interviews were conducted virtually.

Participants

In this study, a small nonprofit was defined as having 1 - 999 employees, medium size as having 1,000 - 9,999, and a large nonprofit as having 10,000 or more employees. The four nonprofits uses in this case study were, AC Family Brokerage (ACFB), Cali Day Care Center (CDCC), Automated Cloud Hub (ACH), and Continuous Care Services (CCS). There was a small, medium, and large case selected; ACFB and CDCC are a small nonprofit, ACH is a medium nonprofit and CCS is a large nonprofit. The study participants included executive leadership, the head of the continuous improvement or operational excellence department, and the LSS project leader.

The purposeful sampling strategy chosen for this qualitative study was the maximum variation (heterogeneity) comparison-focused sampling. I chose this study to understand how different nonprofits view Lean Six Sigma. This helped identify common themes that are evident across the sample. This strategy combines participants according to preselected criteria based on the research question (Patton, 2015). In this study, the requirement was that nonprofits used LSS in the past ten years to improve financial and non-financial performance. Maximum variation sampling was used when the sample size was minimal or when no population information was available (List, 2004). The value behind maximum variation sampling was to gain a greater understanding of the phenomenon by looking at it from various angles (Creswell, 2013).

The participant did not need to be Lean Six Sigma certified to participate but were full-time English speaking employees. The participants had diverse years of experience and were directly involved in implementing LSS to explore the benefits that LSS implementation has provided over the years. The goal of having the financial manager allowed me to obtain different perspectives and views about the problem from a financial and non-financial viewpoint.

Protecting the Human Subjects

Protecting the rights and welfare of study participants is an important aspect of research. Protecting human subjects in a case study includes risk assessment, considerations on how participants are protected from any potential risks, any benefit arising from participating in the study, and the study purpose. To ensure the protection of human subjects in this multiple case study, institutional approval was obtained before the

study commences. All potential participants were informed about the procedures and any potential risks involved before participation in the study. Participants were informed of their rights to participate, decline to participate, or withdraw at any time without any consequences. I obtained informed consent from all study participants and informed them about the nature of the case study and request their voluntary participation. The study participants were guaranteed protection from any possible harm during the study period. They were guaranteed privacy and confidentiality of their data and that their names would remain anonymous.

Data Collection

This case study used interviews, note-taking, and document analysis for data collection. The convergence of multiple sources of evidence helped strengthen the case study's validity and increase confidence in the results (Patton, 2015). The information obtained from documents collected during the data collection process was stored in a database for document analysis. The individual (face-to-face or Zoom) interviews were guided by open-ended questions and lasted approximately 1 hour. According to Patton (2015), an interview is a suitable method for gathering qualitative data. I also took notes during the interview process, and the interviews were recorded, after obtaining permission from the study participants. Using open-ended questions, I was able to pursue areas of the greatest significance, further probe for additional details, and bring up new ideas that might arise from the conversations. The interview responses were transcribed and sent to the study participants for member checking. The transcribed interview data was analyzed through thematic analysis.

This was a traditional social science research interview inquiry. Interviews were useful for this study because participants cannot be directly observed. Standardized questions were used so that each participant experienced the same process and the interviewer effects were minimized (Hyman, 1995). I executed the following ten-step interview process; (a) I asked open-ended questions, (b) I was transparent with interviewees, (c) I listened, (d) I probed for additional information, as appropriate, (e) I observed, (f) I was empathic and neutral, (g) I made the proper transitions between questions, (h) I prepared for the unexpected, and (I) I was present (Patton, 2015). The Zoom interviews were used to get the most useful information and answers to the research questions. The telephone interview approach was not the best method because I could not see informal (nonverbal) communication. With the participant's permission, the interview was recorded for transcribing.

Fieldwork (note-taking) is another significant element of the data collection process for this study. Fieldwork involves going to the research site. I planned to visit the participating organizations but was not able to. The current COVID-19 pandemic limited site entry from occurring. If access into the organization was granted, I would have followed the stages of the substantive and interpersonal process priorities. The features of the entry fieldwork stage are documented in the interview protocol.

“Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material” (Bowen, 2009, p. 27). The document analysis research method in qualitative case studies produces detailed descriptions of a single phenomenon, event, organization, or program (Stake, 1995; Yin, 1994). The LSS programs' documents are another rich

source of case data to support field observations and interviews. Documentation provides valuable information that may not be supplied from interviews and observations. Pulling in the data analysis documents provides a behind the scene look at the LSS program. Other forms of data included in the document review were organizational charts, financial reports, project reports, and any additional public information at the program.

Data validation was performed through member checking, and this technique was used to ensure the credibility of the results. The analyzed data were returned to participants to check for accuracy and quality. The study's motivation was to determine how Lean Six Sigma impacts the financial and non-financial performance of nonprofits. The research interest was to learn about the implementation of the Lean Six Sigma program and identify factors that contribute to success, and the program's benefits from the executive leadership perspective. Therefore, my explicit purpose for this study was to gain insights and explore the implementation of the Lean Six Sigma program in nonprofits.

The reason multiple data collection methods were introduced in this study was for triangulation. Triangulation refers to using multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena (Patton, 2015). The trustworthiness of high-quality data in qualitative research is important. Member checking, also known as participant or respondent validation, is a technique for exploring the credibility of results (Birt, Scott, Cavers, Campbell, & Walter, 2016). The study results were returned to participants so they could check for accuracy and significance.

Data Analysis

The multiple cases in this study allowed effects to be studied between and within participants and allow for cross-case comparisons. Multiple cases also enhance the external validity of the research. I read through all the interview data, collected information through note-taking, and document analysis. The data was then coded and themes created from the codes. Coding and analysis was done holistically from the start to include all participating organizations, then I analyzed each case separately to compare findings across cases.

I used a comparison-focused sampling strategy. To ensure alignment throughout the study, I constructed a case record as the analysis strategy. The data consisted of information collected about the LSS program. This strategy summarizes the raw data, organizes, classifies, and edits into a manageable accessible file (Patton 2015). Constructing a case study identified similarities and differences, established patterns, and looked for correspondence between two or more categories. (Creswell, 2013). A thick description played in the stage of analysis. “Thick description refers to the researcher’s task of both describing and interpreting observed social action (or behavior) within its particular context” (Ponterotto, 2006, p. 543). I included as many details as possible about the impact of LSS in nonprofits, leadership influence, and performance measures. The case study approach was the primary approach for organizing and reporting the qualitative data but the organization and reporting of the case data also aligned with the analytical framework approach for Processes. This approach organizes qualitative data to describe processes. “Distinguishing important processes become the analytical

framework for organizing qualitative description." (Patton, 2015, p. 535). Case analysis encompasses organizing the data by particular cases for in-depth study and comparison.

Content analysis was applied to the study to determine the presence of definitive words, themes, or concepts. Through this approach, researchers can quantify and analyze the presence, meanings, and relationships of those words, themes, or concepts (Elo, Kaarianinen, Kanste, Polkki, Utriainen, & Kyngas, 2014). The data was coded and broken down into manageable categories and summarized. This process permitted me to build patterns, categories, and come up with themes. The inductive approach was used to identify data patterns while working to develop a theory that could explain those patterns. Document analysis was performed to bring additional insight and meaning to the LSS topic.

Trustworthiness

In quantitative research, trustworthiness is referred to as validity and reliability (What is Trustworthiness, 2020). Trustworthiness in qualitative research is important and the key components are credibility, transferability, dependability, and confirmability (Korstjens & Moser, 2017; Lincoln & Guba, 1985). In most circumstances, the researcher is the instrument in a qualitative study, therefore, it is important to establish trustworthiness. I used the four components of trustworthiness in conducting and reporting the research.

In practice, I made the critical choice on what is essential, relevant, the purpose and focus of the study (Fetterman, 2010) to build credibility. "Credibility refers to the extent to which a research account is believable and appropriate, with particular reference to the level of agreement between participants and the researcher" (Mills, Durepos, &

Wiebe, 2010). To ensure data credibility engagement, triangulation, and member checking was included in this study. Multiple sources of data were used to connect and triangulate information and provide soundness to the findings.

Member checking improves the validity and credibility of qualitative research. The transcribed data was sent to the participants so that they could cross-check what is referred to as member checking. This helped minimized any errors, or misunderstandings in the data. The participants were allowed to verify their statements and add any information that was missing.

Transferability is the process of generalizing findings and attempting to apply them to other situations. The audience can generalize the results of research by using the information about the researcher as an instrument, and "also the research context, processes, members, and researcher-participant connections to make it possible for the reader to decide how the findings may transfer" "Trustworthiness in Qualitative Research" (n.d.). I provided a detailed account of the data collection including the interview process, and any other detail about data collection and analysis that helped provide a clear picture of the process.

Dependability is another important aspect of trustworthiness in research. Dependability is based on the researcher being consistent and study being replicable. To facilitate dependability, the research procedures were documented. To verify that the findings were consistent with the data collected, a Lean Six Sigma expert researcher was used as an independent auditor to review the data. In addition, An audit trail of the study processes was provided. Dependability is critical to make sure there was no missing information in the research or misleading information supplied.

Confirmability is the fourth component of trustworthiness. “To achieve confirmability, researchers must demonstrate that the results are linked to the conclusions in a way that can be followed and, as a process, replicated” (Moon et al., 2016, p 2). This deals with the level of confidence that the study’s findings are based on the participants’ words rather than the researcher’s biases. An audit trail was used to document the details of how data, was collected, analyzed, and interpreted. To conform to this standard, I recorded all the processes in detail.

CHAPTER IV

Introduction

The current study examined the impact of Lean Six Sigma on the financial and non-financial performance of nonprofits. This chapter reports the study findings based on a within-case analysis of the impact (or variation) of Lean Six Sigma using case studies. The chapter is organized based on the three specific research questions presented in Chapter I. The chapter reports on how small, medium and large NPOs in the Midwest are using the Lean Six Sigma program, and examines the factors influencing the success of the Lean Six Sigma Programs in NGOs. Lastly, the benefits of implementing the Lean Six Sigma program are examined from an executive leadership viewpoint.

Case Study 1 (Within Case): AC Family Brokerage (ACFB)

Theme 1: The use of LSS in ACFB to improve business processes

AC Family Brokerage (ACFB) is a small nonprofit in the Midwest with 80 – 100 employees. The Senior Operations Manager at ACFB said “the ACFB LSS program was used to develop Lean Six Sigma Green Belt (GB)”. LSSGB employees of the organization have been trained on the Lean Six Sigma improvement methodology and leads a process improvement team as part of their full-time job, which has saved ACFB both time and money in its core business processes. They reported 97% improvement in the Savage Process Enhancement project, and cost-saving from the Green Belt project, even though cost-saving was a secondary measure. Besides, LSS affects all the bossiness process in the entire organization. The Senior Operations Manager at ACFB said “this can be seen through their employee satisfaction results, process improvement project results, and customer satisfaction surveys.”

The program implementation cost was low because the programs were sponsored by the business partner. The LSS program tracks the daily project performance data and uses historical data to track its performance and capabilities. Some of the indicators tracked are, quality, delivery, cost, inventory turns, and waste reduction. Therefore, as the staff successfully complete the projects, they can appreciate an improved level of efficiency in the business processes. One of ACFB's critical business projects was to improve its disposition process because they have industry compliance standards they have to maintain. To date, they have been able to maintain the disposition percentage at a level slightly below the industry standard. Outside of the LSS projects, ACFB conducts pulse surveys to examine communication, employee satisfaction, work environment, job role, and relationships. Overall, ACFB utilizes the LSS Green Belt to improve on process performance, hence improve the strategic processes of the business.

Theme 2: Factors influencing and contributing to the success of the Lean Six Sigma Programs in ACFB (evidence below is a summary of the interviews)

ACFB identified simplifying processes as one of the top factors for the successful implementation of the Lean Six Sigma Program. This enabled the organization to define a more efficient way to distribute its products. Another essential factor for a successful project team is the staff, where the right people are placed in the right positions. The success of the projects at ACFB was also dependent on the volunteers working on the project. ACFB was able to increase the distribution of waste in the process, and successful inventory turns were reported. Inventory turns to show how many times a company sold and replaced inventory every month, and for ACFB, their goal for the inventory turns was 100%.

ACFB's LSS program implementation was successful. One of the major challenges that the program faced before the implementation of LSS was an over-reliance on volunteers, especially for the main project work. Besides, the support staff for the LSS project were also volunteers. Generally, the volunteers lacked job-related experience and were reluctant to commit to working on the projects. They were also highly inefficient, and due to these process inefficiencies, the organization lost several volunteers. However, the implementation of the LSS process greatly improved the project processes, and the organization significantly reduced the number of volunteers, thus minimizing inefficiencies.

Lean Six Sigma is not the only performance program ACFB has adopted to enhance the business processes. They also executed Kaizen, A3, and System Management to support the LSS program. Besides, time studies tools are functional in the organization, allowing the LSS Program to improve processes, optimize performance and increase operational efficiency through work simplification and standards. In conjunction with the inventory turns management, they also used the FIFO system to manage inventory. This system was set up to ensure that the oldest products in the company's inventory are sold first. Lastly, the organization also adopted the Daily Management Accountability performance management program to support LSS. This program involved individuals at all levels of the organization to keep in check the organization's goals, performance metrics, and projects. Considering these influencing factors and challenges, ACFB focused on the project metrics, the process, and nonfinancial metrics, which have significantly contributed to a successful LSS program.

Theme 3: The benefits of implementing the Lean Six Sigma program in ACFB from an executive leadership viewpoint

The CEO and management team at ACFB have been very supportive of the Lean Six Sigma program. The management further supported the training of employees at the Lean Six Sigma Green Belt level, which is the third level of the LSS journey. The program has allowed others to be involved in the planning process, thus encouraging staff feeling of ownership in the success of LSS, and this increased their morale. The management also utilized a strategic approach to implement LSS, in this, they did not focus much on the financial impact of the program, but on the improvement of the Savage Process Enhancement project.

ACFB identified some best practices that can be helpful for other nonprofits deliberating on implementing LSS in their organizations. Therefore, nonprofits interested in improving their processes, creating new processes, or transforming their employees into problem solvers should implement Lean Six Sigma. The Operation director made this suggestion based on the financial and non-financial benefits ACFB has achieved using the program. ACFB Operation Director recommended that nonprofits consider starting small with kaizen, to allow partial improvement of the program. Besides, if the implementation of a complete LSS program is not favorable, they can consider implementing the A3 problem-solving. The ACFB Operations Director said, “as it relates to business improvement, “when you think you are done, you are not.” This statement was made by the director as guidance to help nonprofits have a smooth, successful program implementation.

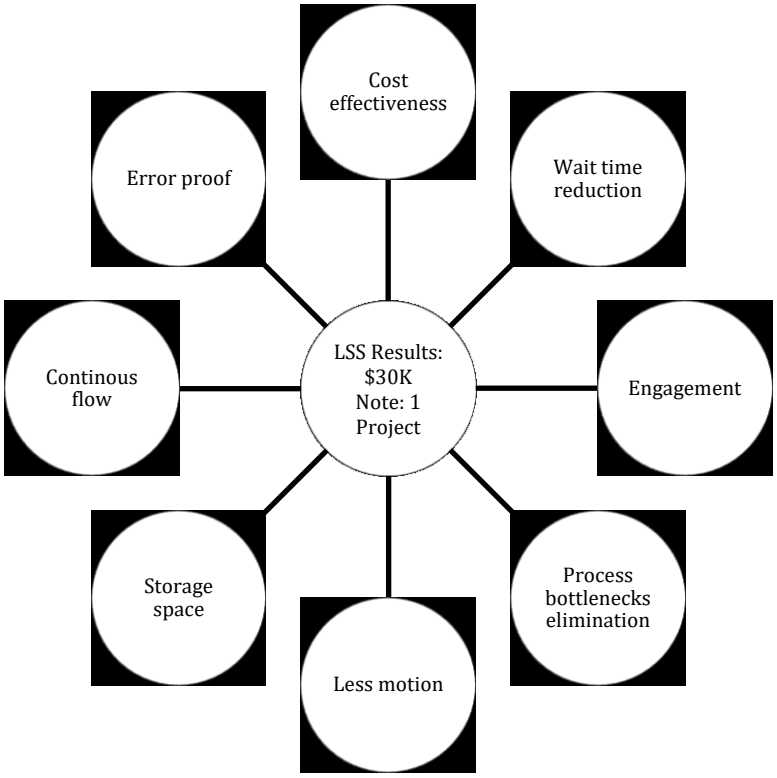

Figure 4.1. Financial and Non-Financial Results of Lean Six Sigma

The information above, Theme 1, 2, and 3, is a summary of Case 1. Figure 4.1 is a summary of some of the results achieved by utilizing the Lean Six Sigma program. As the figure displays, ACFB has executed several nonfinancial benefits of the LSS program. The $30k in the center of the figure is the results of one LSS project.

Case Study 2 (Within Case): Cali Day Care Center (CDCC)

Theme 1: The use of LSS in CDCC to improve business processes

Cali Day Care Center (CDCC) is a small nonprofit in the Midwest with 500-600 employees. CDCC's Lean Six Sigma program focuses on education and employee development. The LSS training program is in its early stage and designed for senior leaders, staff, and individual contributors. The program's initial emphasis on teaching about various tools and has shifted to developing people and building capabilities. CDCC

has partnered with LSS Training and Development organizations to continue building the organizations' competencies, best practice sharing, and networking.

The organization created a Leadership Academy for executives, managers, and future leaders. The leadership program centers around and focuses on waste identification, process improvement, and problem-solving tools. Leaders are trained first to go and help build skills and capabilities in their teams, and some of the leaders are Lean Six Sigma Black Belt certified. The goal of the program is to have Lean Six Sigma Champions at each facility. The CDCC Program Coordinators said "the LSS program first focuses on the process and cost-saving follows. Staff engagement is another key component of the program, and currently 35% of the organization is using the program.

CDCC identifies three approaches to manage the cost, efficiency, and effectiveness of Lean Six Sigma in their organization. They have a reporting system that provides monthly reports, with each department having quality indicators and metrics that are frequently reviewed. The quality indicators used are cost saving, inventory management, employee engagement, and cycle time. They also have a Lean Steering Committee that reviews the project matric and dashboard. The finance officer takes part in the review process, and there are several others involved in the review process as well, making sure that performance is tracked.

Theme 2: Factors influencing and contributing to the success of the Lean Six Sigma Programs in CDCC (evidence below is a summary of the interviews)

CDCC Lean Six Sigma has been successful because of a few critical factors. Senior Leadership support is acknowledged as a significant factor contributing to the successful implementation of Lean Six Sigma. Having Control Plans to control and

document the functional elements of quality control ensures that process standards are met. CDCC uses SMART (Specific, Measurable, Achievable, Relevant, and Time-Bound) goals to ensure that the objectives are attainable within a specific time frame. Having the right team members, who support and encourage each other is essential for LSS implementation because the project is team-based. Lastly, understanding the business problem or challenge is a significant factor because it defines issues within the business or process and how these issues affect the organization.

The LSS Program at CDCC has adopted several other performance management program practices to enrich overall program effectiveness. Process mapping is one of the tools that has been adopted to visually describe the flow of work. The voice of the customer is another helpful tool used to capture the customer requirements and feedback. The affinity diagram is used to organize the large number of ideas rolled out in the program. Early in the program, before the introduction of DMAIC, the organization implemented PDCA and A3 for problem-solving, continuous improvement, and change. the project type determines which other performance management program practices are used to support the Lean Six Sigma DMAIC method.

The CDCC LSS platform, however, faced challenges during the implementation phase. The CDCC Program Coordinators said “the organization struggled to obtain an initial buy-in from employees, especially the tenured employees because they did not want to adopt change.” During the early project deployments, some of the projects failed to sustain the improvement efforts. Only one human resource person was available to conduct the training, causing delays in the implementation phase. Some improvement efforts required support from other departments that were not in their circle of influence,

some systems were not user-friendly, and this interrupted the process flow and caused technical difficulties. Lastly, The CDCC Program Coordinators said “not having the right resources required for successful implantation of the process led to some business complications.” To overcome these challenges, they ensure the process owners and the team members were engaged in the process, aligned the project to strategic objectives, and implemented the process to understand the customer needs.

Theme 3: The benefits of implementing the Lean Six Sigma program in CDCC from an executive leadership viewpoint

When the new CEO joined the organization, one of the first things he introduced was the Lean Six Sigma Program. CDCC began the program introduction with top-down support. The CFO of the organization was a firm believer in the LSS process. CDCC CFO said, “it is a way to dissect tasks and form more efficient processes.” The LSS program enabled the organization to align and move together toward shared goals. Lean process improvements were considered positive by the leadership. LSS promotes process thinking and helps involve all in the organization in the improvement process. The program has continued to expand, even though not all organizations are utilizing the improvement program.

The program allows employees to be part of the solution, they are included in projects and promote better problem-solving outcomes (produces longer-lasting results). Given that employees have a voice in the process, this allows for a better understanding and appreciation of their work. LSS makes interdependencies clear and shows how everything comes together. Employees are engaged by finding out the barriers that they face in their day-to-day work and are asked to share their ideas on how to improve the

barriers or challenges faced. LSS allows teams and individuals to contribute to the success of the positions they hold, and this improves the overall business performance. LSS has been ingrained in the departments, enabling teams to strive for efficiency and eliminate waste, and this makes the customers extremely satisfied.

With the top-down approach and staff involvement, the LSS program has produced sustainable results. The CDCC IT department has been using lean to improve their help desk and workflow. This aims to improve communication and the ticket resolution time. Before the implementation of the LSS framework, the team was working in silos with poor customer satisfaction. Since then, staff and customer satisfaction have significantly improved. The purchasing department implemented a Kanban system that reduced their inventory. CDCC reduced the hiring process cycle time from 22 weeks to 4 weeks, and the payment collection process from 50 days to below 30 days. Another benefit of the program was the implementation of the standard operating procedures, workflow, and the Bright Idea Board. The Bright Idea Board allowed employees to come up with ideas to improve the process, and employees' engagement improved from 4% to 35%.

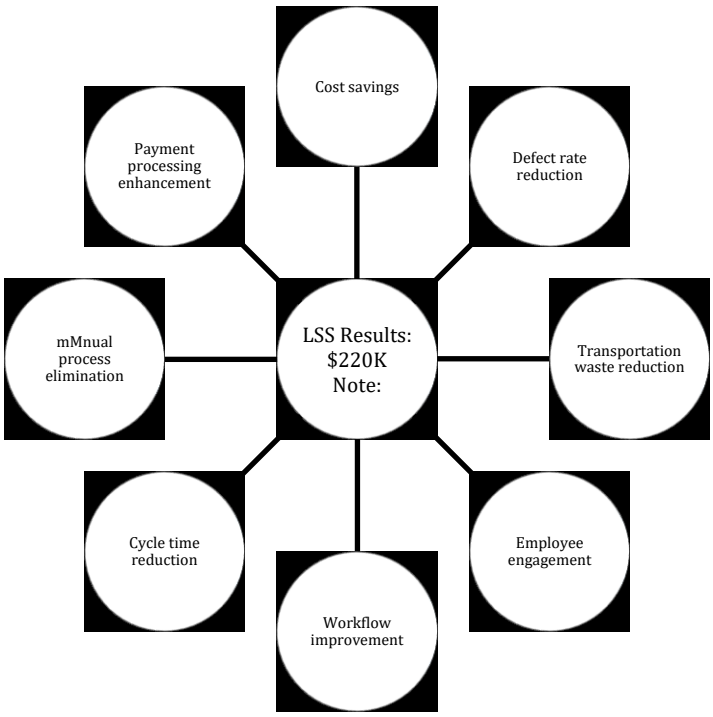

Figure 4.2. Financial and Non-Financial Results of Lean Six Sigma

CDCC guides the implementation of Lean Six Sigma that would benefit other nonprofit organizations interested in implementing LSS. CDCC notes that the most important thing for an organization is to work on the culture first and to remember everything cannot be fixed at once. They need to start small, identify quick-win projects, and get the staff involved early enough. Receiving support from senior leadership and management makes the journey better. Besides, they should use the program to engage staff, develop the staff, celebrate small wins and recognize the team. Lastly, they need to partner with other Continuous Improvement companies and training organizations and learn from each other.

The information Figure 4.2, Theme 1, 2, and 3, is a summary of Case 2. Figure 4.2 is a summary of some of the results achieved by utilizing the Lean Six Sigma

program. As the figure displays, CDCC has executed several nonfinancial benefits of the LSS program. The $220k in the center of the figure is the results of one LSS project.

Case Study 3 (Within Case): Automated Cloud Hub (ACH)

Theme 1: The use of LSS in ACH to improve business processes

Automated Cloud Hub (ACH) is a medium-sized nonprofit in the Midwest with 5,500 -7,500 employees. The ACH program is referred to as Operational Excellence (OPEX). Operational Excellence is a business strategy that enables each employee to see the customer's value which supports the growth of the business. OPEX has aligned the LSS improvement effort to the mission and strategic plan of the organization. Besides, OPEX is enterprise-wide and helps with basic process improvement. The program partners with organizational development for coaching and workshop facilitation. The OPEX program combines with serval performance management systems (A3-problem solving, Strategy Deployment system, Daily Management, Lean Design, Community Engagement, and Kaizen event) to improve quality, reduce cycle time, improve flow, save money and generate money. A key output of the program is to train Lean Six Sigma Green Belt, where 80% of the program focuses on coaching and 20% on the actual activity. During the pandemic, the OPEX group was used as a Swat Team that offered support when needed. A Swat is a cross functional team focused on solving a specific business problems.

Various levels of the Operational Excellence Program are understood or utilized in the organization. Ten LSS Green Belts are trained, developed, and lead projects annually. Besides, 10% of the organization has complete A3 training, 20% of the organization understands the Lean approach. However, there has not been a considerable

increase in A3 and Lean training because the OPEX organization has not advertised the OPEX Service. At ACH, 99% of the organization employ standard work and daily huddle to manage the business, because it understands the importance of customer value and focuses on continuously improving its key processes.

ACH uses a balanced method to manage cost, efficiency, and effectiveness. First, they acknowledge that opportunities for improvement are associated with the organizational strategic plan. In their training program, they stress on cost, quality, and delivery, so that when employees complete the program, they are already thinking in terms of metrics. Projects are more accessible to quantify because they have measurable metrics that are aligned to cost, quality, and delivery. Currently, they are developing a financial program for ongoing cost management. The ACH daily management system is quite challenging to quantify because it is a monitoring and activity-based process. Daily management is a continuous process through which team members evaluate their progress towards accomplishing their strategic objectives daily.

The ACH OPEX team reviews the organization's performance and capabilities through various formats, such as tracking how many employees are trained through the program. They measure the financial and non-financial impact of the LSS Green Belt projects. They do not have a regular cadence for project reviews but utilize the Daily Management System for daily management of strategic activities. The Daily Management System allows people at all levels of the organization to visibly see and track business performance.

Theme 2: Factors influencing and contributing to the success of the Lean Six Sigma Programs in ACH (evidence below is a summary of the interviews)

ACH has identified top leadership as a major factor contributing to the success or failure of the LSS program. They deploy kaizen events and the A3 framework to support the performance system to LSS. Their focus is on system and process improvement, and they believe in the Just Culture. The Operational Excellence director at ACH emphasized the Just Culture noting “that it is not a blame and shame situation if an error happens.” They recognize that practitioners should not be held accountable for system or process failures, for which they have no control. ACH has also adopted Innovation, Ideation, and Mind Mapping methods to organize thoughts around a topic using images, words, colors, etc., to highlight ideas and draw associates. ACH has indicated a high-reliability mindset as an important factor for creating the culture and mindset for customer safety.

When it comes to improving the business process, the Operational Excellence director at ACH emphasized that "sometimes you need to improve something and sometimes you need to blow it up." This refers to process improvement and problem-solving for an existing process versus starting over and designing a new process. The person allowed to lead is selected by the department or business unit's vice president. Learning from other industries, networking, visiting other companies, and relationship building has contributed to the successful implementation of the operational excellence program. ACH has identified various factors that contribute to the success or challenges of implementing the Operational Excellence program as shown in Table 4.2.

Table 4.2. *Factors that contribute to the success or challenges of implementing the Operational Excellence program*

	Success	Challenges or Failures
1	Conduct tests and pilots	Over complicating the LSS process or framework
2	Top leaders of the organization have to support it	Do not need fancy tool if something simple will work
3	Top leaders have s deep understanding of LSS	Not asking the employees for ideas
4	LSS committee	Working through the resistors
5	Work within the system	Some people see LSS as a tool and not a culture
6	LSS practitioners has prior experience working inside the business	Leadership behaviors
7	Code of trust	When leaders overreact when employees tell them what going on in the business at the huddle meeting
8	The top-down and bottom-up approach	When leaders solve the problem instead of empowering employees to solve the problem
9	Do not use all the LSS jargon	----------
10	Understand the culture and industry	----------

Several factors influence the program, but the program has achieved process effectiveness and efficiency results from OPEX since implementation. Much of the efforts have focused on lean design, timely delivery, waste reduction, and community engagement. If goods results are not achieved, the OPEX department first reflects on themselves to identify what they could have done differently.

Theme 3: The benefits of implementing the Lean Six Sigma program in CDCC from an executive leadership viewpoint

For example, from a leadership perspective, the OPEX program is well received by ACH. Departments are open and honest about the business challenges they face. As a result, there is a high degree of trust in the OPEX program because they have a good relationship with the employees involved in the program. They are considered a pull system because whenever a department identifies a business challenge, they need help, guidance, or support, they connect with the OPEX team. OPEX is also considered a problem-solving program that engages the employees, and they are not seen as someone just trying to generate cost savings but as a group that drives process improvement through employee development. Another benefit of the OPEX group is that they are actively involved in the Lean design workflow development. They integrate product and process design by considering and determining how to build and use the products and designs. The program enables organizations to achieve long-term sustainable growth, and the leaders perceive individual development, customer satisfaction, and employees' views of changing fundamental benefits of the program.

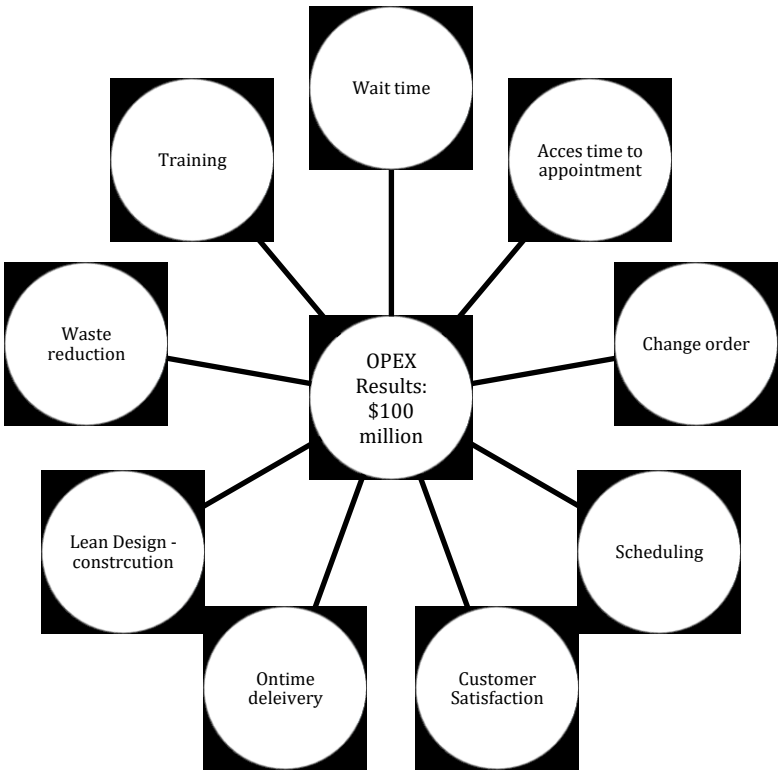

Figure 4.3. Financial and Non-Financial Results of Operational Excellence

The OPEX program has had a great impact on the financial and nonfinancial performance at CCS. They have identified best practices that can be beneficial to other nonprofits during the implementation process. Before starting the program, the organization needs to conduct a cultural assessment. When the program is ready for launch, they should start with the highest engagement areas and train the leadership team first. Leadership must have the right mindset from the beginning for this type of work, be humble, and be open to new ideas. They ought, to begin with, one area, and show results to create pockets of excellence. Have the department going through the deployment talk with each other (best practice sharing). Lastly, for the organization to realize the program's full benefits, they should keep things simple, focus on behaviors more than tools, and allow the employees to own their work.

ACH has tracked some of the nonfinancial results of the program. The program allows frontline workers to do something different and empower them to recognize business problems and challenges. One of the program's most significant opportunities has been the building design projects, and they introduced Lean Design to tackle this challenge. The Operational Excellence director stated, "the cultural improvements are hard to quantify. They have made big impacts on the transparency of data." The daily management system and daily executive huddle have greatly supported the ACH Operational Excellence Program.

Case Study 4 (Within Case): Continuous Care Services (CCS)

Theme 1: The use of LSS in CCS to improve business processes

Continuous Care Services (CCS) is a large nonprofit in the Midwest with 50,000 - 70,000 employees. The CCS program is referred to as Continuous Improvement, and the team that facilitates the projects and activities is referred to as the Continuous Improvement (CI) team. Through continuous improvement, the team seeks to improve every process in the company by focusing on enhancing the activities that generate the most value for their customers while eliminating wasteful activities. CCS uses LSS for enterprise efforts or activities to deliver business results, however, not all departments are at the same deployment level, and some departments are further along in the program. About 50% of the organizations are using the program.

CCS uses a blended method to manage cost, efficiency, and effectiveness. They utilize the agile framework, A3 methodology, and formal financial reviews. The finance team review the organization's performance and capabilities. The agile method is used to manage the project by breaking it up into several phases, and this process allows the

definition of each Sprint's acceptance criteria and clearly state what success looks like. The CI team and the department they are working with agree on the work to be accomplished during the Sprint. The A3 method is a structured problem-solving and continuous-improvement approach that embraces collaboration, learning, and employee development, besides, it is also used as a tool to document results and coach the organization. There is a database that is used to keep track of results, and at the end of an assignment, a continuous improvement project financial result is formally reviewed by the finance team. Once the team obtains financial approval for the numbers or results, they document them, and if the financial results are above $50,000, the Project and Finance team create a formal financial report. The final results of the project are used for best practice (knowledge) sharing throughout the organization.

Theme 2: Factors influencing and contributing to the success of the Lean Six Sigma Programs in CCS (evidence below is a summary of the interviews)

CCS Continuous Improvement Model or Framework is not a stand-alone program. CCS incorporates other performance management programs or practices in conjunction with the CI Model to deliver success. They incorporate process behavior charts (statistical (SPC) charts) in the process review to identify and eliminate waste and variations. They also follow plus improve the business standard and build alignment in the organization. CCS identified various factors that contribute to the success or challenges of implementing the Continuous Improvement program as shown in the following table:

Table 4.3. *Factors that contribute to the success or challenges of implementing the Continuous Improvement program at CCS*

	Success	Challenges or Failures
1	Engage the process owner	The subject matter is complex or difficult
2	Process owner owns the project	Rework or readmission
3	Do not jump to conclusions during the analysis phase	Human complexity
4	Take time to analyze the problem to have confidence in the countermeasure	Scale: getting all employees on board with CI model or program
5	Engage team and make it fun	Determining where to put employees
6	When the team feel the CI team is there to help	Prioritization
7	----------	Organizational alignment
8	----------	Strategy or goal setting

CCS achieves process effectiveness and efficiency from the use of Lean Six Sigma. The CI department is involved in helping the organization design and create a new process. The CI program realized operational and throughput improvements, resource, and equipment utilization efficiencies, and created a new process during the COVID-19 pandemic.

They stated that it is easy to measure dollar improvements, but it is sometimes challenging to aggregate the impact. For example, they need to make sure that the process starts on time, and if it does not start on time, it has an impact on customer satisfaction. It is challenging to tell the aggregate story or impact when the unit of measure is different, but they have improved the quality measures (defect, rework, customer injuries, etc.). This is a LSS performance measure challenge for nonprofit, not specific to CCS

indicators or measures. CCS expressed challenges during the implementation of the Continuous Improvement program. One of the top challenges was scale. Scale relates to the number of employees; the challenge is, how do you get the CI program and train all the employees?

Theme 3: The benefits of implementing the Lean Six Sigma program in CCS from an executive leadership viewpoint

CCS Continuous Improvement (CI) program has been used to create a culture of improvement. They refer to it as Continuous Improvement because it was merged from two methodologies, Lean and Six Sigma. Other organizational improvement methods and frameworks that have been implemented (Project Management, Change Management, Agile, and Human-Centered Design Methods) and put in place to support and build a culture of improvement. The CI program has been implemented to help customers or clients, and also creates and develops partnerships, improves the process, customer satisfaction, and the employees' work. The CI department keeps track of the impact of the partnerships. There is recognition that the program requires extra work, energy, and effort to improve and get things done. The leadership team has accepted this challenge and finds more time to pursue the program and achieve business enhancements.

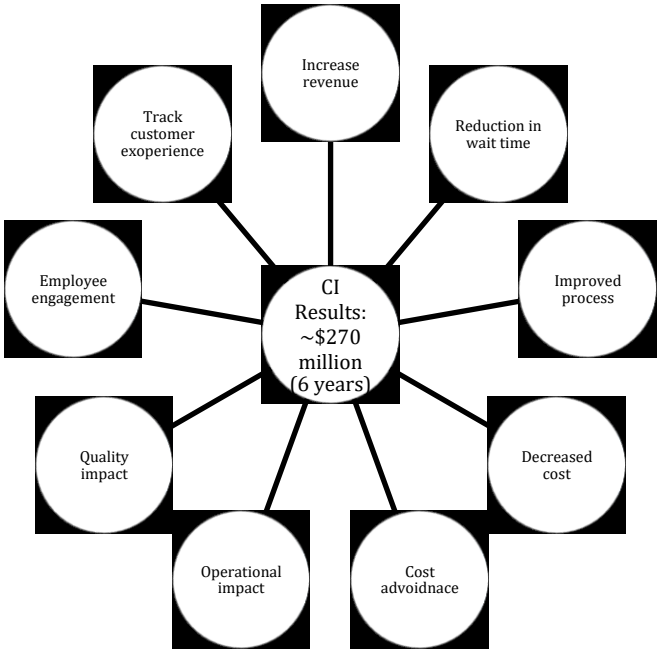

Figure 4.4. Financial and Non-financial Results of Continuous Improvement

The CI program has a significant impact on the financial and nonfinancial status at CCS. They have identified best practices that can be beneficial to other nonprofits during the implementation process. The employee should be responsible, and engage the CI department, for discussions and sharing of the project's success. When it comes to the leadership team, one should be careful about what is required of them because most do not know what continuous improvement is unless they have gone through the CI leadership training. Forcing leadership to approve or support something they do not know about or have never experienced is not a good approach. The Director of CCS highlighted that, by stating "be careful what you're asking your leaders for, and do not say if it doesn't happen from the top, no one's going to follow it. That is hard for them to say yes to". The CI team approach is to ask the leadership for something very small, and function with a small team. It is easier for them to say yes to something with low risk and when the small

project is complete, share the results to obtain support for the next project. The goal is to relate the work to the mission of the nonprofit and also focus on things that meet the customer needs and improve their experience. This type of opportunity makes it easy for people to say yes.

Summary

The following charts and graphs examine themes, similarities, and differences across the cases. Table 4.3 highlights how each case selects Lean Six Sigma Candidates. Selecting and training people for Lean Six Sigma project is a crucial ingredient for success during the launch phase of the Lean Six Sigma initiative (Kubiak, 2012). The candidate selection process is a critical step to ensure that a Lean Six Sigma program provides the benefits. The cross-case analysis informs the study that each case has a different candidate selection process. The selection process varies from, anyone interested can apply, to we will train executive leaders first.

Lean Six Sigma is a business strategy and methodology that increases process performance results, enhances customer satisfaction, and improves bottom-line outcomes. Lean Six Sigma is a performance management system used to track progress and identify and resolve problems. The performance system is the continuous process of improving performance through regular review and evaluation of progress. LSS is the primary performance improvement strategy used, but Table 4.4 introduces other performance management systems and tools supporting and enhancing LSS. The table presents approximately seven support systems that each case uses throughout the organization. Although it is not an exhaustive list, each case used the DMAIC framework and the A3 problem-solving approach.

The nonprofit cases expressed that cost-saving was not the main reason for LSS, but they achieved significant cost savings as a result of the program. Figure 4.5 displays the savings accomplished by each case. The cost savings vary from one project reaching $30,000 to an LSS program achieving $270 million over six years. Figure 4.6 states how many employees, as a percentage of the organization, use the LSS program to improve process performance. These charts and figures show how nonprofit organizations have similarities, differences from candidate sections, performance system used, and percentage of employee engagement but have benefited financially and nonfinancial from the LSS program.

Table 4.3 *Between Case Summary*

	Lean Six Sigma Candidate Selection Process			
	Case 1	**Case 2**	**Case 3**	**Case 4**
Step 1	Anyone can apply	Anyone interested in learning can apply	Executive leadership team select a high performer or future business leader	Do you have a project with a clear problem statement?
Step 2	Get supervisor approval	First leaders are identified through succession planning	Select 10 candidates	Do you have a team?
Step 3	Leadership select a project	Next informal leaders or anyone identified a future business leader	Executive leaders review the strategic plan for top initiatives and things they want to improve in the business	Do you have time to work on the project?
Step 4	----------	The senior leader is trained first through an external training program	Executive leaders select a project aligned to the strategic plan	---------
Step 5	----------	New and existing manager can go through the leadership academy	----------	----------

A between case analysis was conducted to describe how Lean Six Sigma candidates are selected. Table 4.3 presents the process used by each nonprofit to select LSS candidates. The table displays the variation in how candidate are identified and designated. Some of the candidates are self-selected and some are selected by leadership. There is no structured approach to how Lean Six Sigma Leaders (Green or Black Belts) are carefully chosen.

Performance Management Systems for the four case studies

Table 4.4. Performance Management Systems

Performance Management Systems	*(Not an exhaustive list)*
Case 1	DMAIC, A3, Kaizen, System Management, Daily Management, FIFO
Case 2	DMAIC, A3, PDCA, Process Mapping, VOC, Affinity Diagram, Smart Goals
Case 3	DMAIC, A3, Kaizen, Lean Design, Daily Management, Strategy Deployment, Community Engagement
Case 4	DMAIC, A3, Agile, Project Management, Change Management, Human Centered Design Methods

Table 4.4 displays the variety of problem-solving approaches used to supplement the Lean Six Sigma DMAIC process. All these approaches follow a scientific method way to solve the problems. These performance management systems are used in collaboration to ensure that the outputs meet an organization's goals effectively and efficiently. Using these systems creates an environment where people can perform well to produce a high quality of work. All the cases use the DMAIC and A3 problem-solving

process to improve performance, and the other performance system plays a specific role in organizational success.

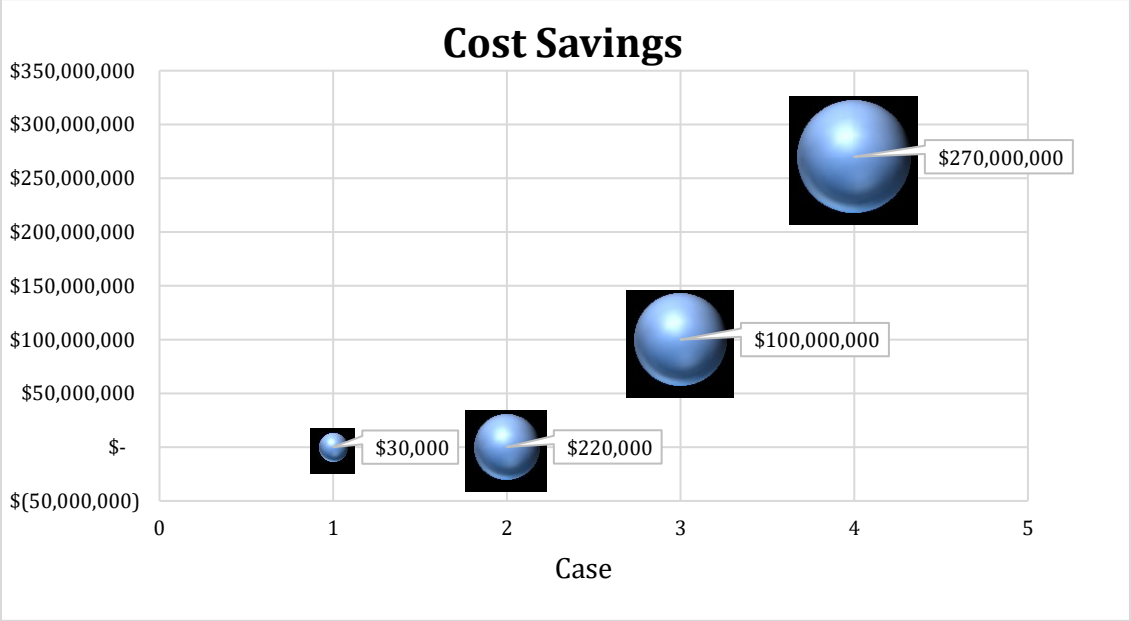

Figure 4.5. Cost savings

Case 1: one project (1 year)

Case 2: one project (1 year)

Case 3: multiple projects (10 years)

Case 4: multiple projects (6 years)

The nonprofits measure the financial impact of the LSS projects. Figure 4.5 demonstrates the cost savings achieved through the LSS project from one project to multiple projects over several years. The nonprofits invested in LSS training to realize these significantly reduced costs. The x-axis denotes each case, and the y-axis indicates the cost savings value.

Percentage of Organization Using LSS (%)

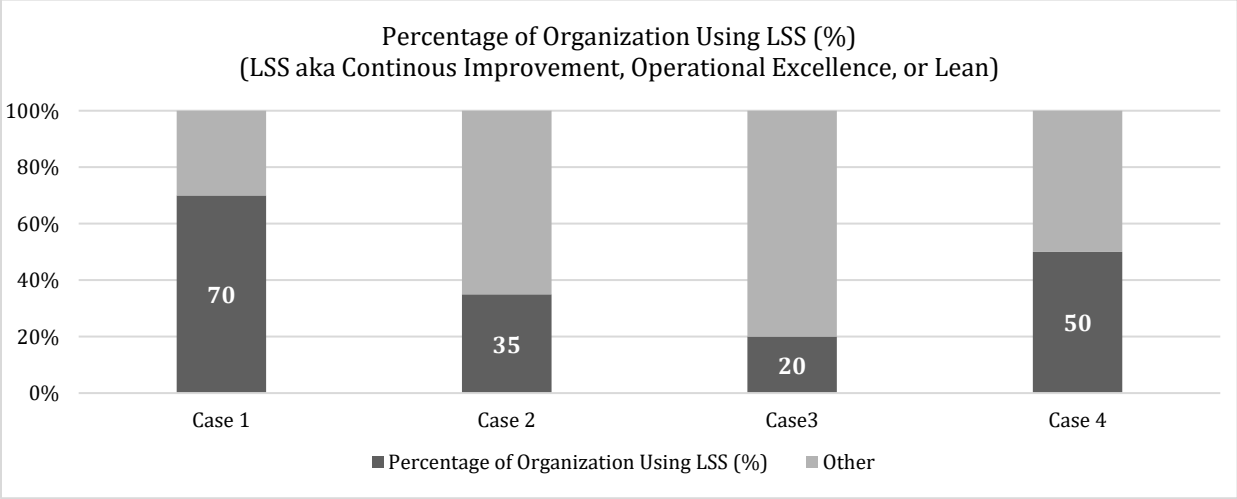

Figure 4.6. Percentage of Organization Using LSS (%)

Lean Six Sigma is a framework used to make an organization more competitive by centering on being effective and efficient. The nonprofits in this study worked to increase the LSS exposure throughout the organizations. Figure 4.6 denotes how much of the organization was utilizing the LSS program. 70% of the employees in the case were using the LSS program, 35% in Case 2, 20% in case 3, and 50% in case 4. The nonprofit's goal is to expose everyone in the organization to LSS.

CHAPTER V

Study Summary

This chapter discusses the study findings presented in chapter four and draws conclusions on the impact of Lean Six Sigma on the financial and non-financial performance of nonprofits. I examined the meaning, importance, and relevance of the findings for nonprofits, concerning the literature reviewed and the current study's research questions. The chapter concludes with recommendations for future research. Initially, I conducted a pilot study to determine whether there was a need to refine the research questions and interview questions. I also wanted to identify and resolve any potential issues before conducting the actual study. The pilot study was conducted in nonaffiliated organizations and the findings used to validate the interview process and duration based on the number of interview questions. After conducting a pilot study, I revised one of the research questions and two interview questions based on the pilot study outcome. Feedback from the pilot study also suggested that the interview questions should be sent to the participants in advance to ensure thorough responses to the questions.

To answer the research questions, I used a multiple-case research design to develop a more in-depth understanding of the LSS program. Four case studies from the Midwest and of varying sizes (small, medium, and large) were selected. The maximum variation comparison-focused sampling (purposeful sampling strategy) was chosen to select the sample and use it to understand how different nonprofits view Lean Six Sigma. ASQ defines Lean Six Sigma as a:

> Fact-based, data-driven philosophy of improvement that values defect prevention over defect detection. It drives customer satisfaction and bottom-line results by reducing variation, waste, and cycle time, while promoting the use of work standardization and flow, thereby creating a competitive advantage. (What is Six Sigma?, n.d.).

Data were analyzed through case analysis and involved organizing the data in specific cases for in-depth analysis and comparison of the impact of the Lean Six Sigma program.

Analysis of the nonprofits LSS program revealed the following major existing elements: (a) performance analysis and review, (b) financial performance, (c) process efficiency and effectiveness, (d) leadership perspective, (e) quality of data, and (f) supporting performance systems. The existing element was found to shape the organization's culture, results, communication, employee development, and growth potential. This analysis supported the theory that measuring organizational performance using a more balanced set of performance measures is appropriate with Lean Six Sigma. For each case, I examined and analyzed the program and its impact on organizational growth. The patterns and relationships among the existing elements revealed that the cases had similarities in how they approached the implementation of Lean Six Sigma.

The following research questions presented in Chapter I guided this study:

1. How are small, medium and large NPOs in the Midwest using the Lean Six Sigma program?
2. What factors influence and contribute to the success of the Lean Six Sigma Programs in NPOs?

3. From the executive leadership viewpoint, what are the benefits of implementing the Lean Six Sigma program in NPOs?

In Chapter II, I discussed the most important benefits, restrictions, and leadership aspects of nonprofit organizations. The literature review synthesized the current knowledge related to the impact of LSS in nonprofits, how to measure financial performance, and discussed the alignment of the theoretical framework, including the contingency theory, and balance scorecard theory. Framing the research through the balanced scorecard theory and contingency theory provided a view of leadership's guidance and strategic alignment for nonprofit organizations.

In Chapter III, I described the procedures of collecting and analyzing data using standard techniques, maximum variation comparison-focused sampling, and case analysis. In Chapter IV, I documented the study findings from the case studies. In Chapter V, I discussed the study findings with reference to previous studies focusing on the impact of LSS on the financial and nonfinancial performance of nonprofits. The four case studies included; AC Family Brokerage (ACFB), a small nonprofit whose LSS program is a process results-focused versus financial cost savings-focused. Their philosophy is to keep things simple and empower staff to ensure process improvements. The LSS program at ACFB has been supported by the organization leadership since its inception. Various other support performance improvement systems have been utilized to realize business growth. Cali Day Care Center (CDCC) is a medium-size nonprofit, and its LSS program focuses on education, leadership, and employee development. They have a strong belief in developing partnerships with LSS intensive organizations. The CDCC training program is centered on executive leadership development, and the program has

strong executive leadership. Many performance management systems are working together to execute training and project execution. Automated Cloud Hub (ACH) is a medium-sized nonprofit, and their LSS program, which is known as Operational Excellence, focuses on system and process improvement to develop and utilize LSS Green Belts for project implementation. The organization leadership supports the program and confirms that the project is aligned with the organization's strategic plan. The ACH improvement system tracks both the financial and non-financial performance metrics. Continuous Care Services (CCS) is a large nonprofit that focuses on creating a culture of improvement, process improvement, and cost savings. The LSS program at CCS is referred to as Continuous Improvement because it merges Lean and Six Sigma methodologies to expand and improve business performance. The CCS CI program works closely with the departments to drive efficiency and effectiveness while measuring the financial and non-financial performance metrics.

Discussion and Interpretation of Findings

There are limited literature and research on Lean Six Sigma's impact on nonprofits. Thus, there has been a need to investigate the impact of LSS programs on nonprofits. Through the analysis of the study findings, several insights have been realized in this study on the impact of Lean Six Sigma on nonprofits, through case analysis.

Previous studies highlighted that for the LSS program to work efficiently, managers at all levels must commit and support the process by providing employees with training, knowledge, and authority to solve problems. An LSS project can be used to determine the relationship between and measure the impact of financial and non-financial performance in an organization (Martins & Mergulhao, 2007). Besides, LSS can lead to a

superior financial performance by addressing business needs and driving innovating processes in a company (Dumitrescu & Dumitrache, 2011).

By examining how nonprofits are using the Lean Six Sigma program, I found that leaders in an organization must support and participate in the program. If the leaders realize that the Lean Six Sigma strategy is a valuable, and necessary program, they will support it. Besides, they must help employees to overcome organizational resistance and be involved in project identification and prioritization. However, getting leadership support is not enough, there must be a connection between the LSS department leadership and executive leadership to formulate a deployment roadmap. The deployment can focus on a few areas: project execution and management, training, problem-solving, and leadership development. Lean Six Sigma leaders and practitioners assist in developing and utilizing organizational metrics and dashboards. If the organization is focused on business needs and challenges, the financial measure is secondary. Therefore, successful LSS implementation begins with support from top leaders who support the Lean Six Sigma infrastructure. Once the LSS program is fully implemented, then leaders can manage the change.

This study finding reveals that the Lean Six Sigma Program evaluates the effectiveness of the quality systems using various tools to track the total organizational performance. This study covered the four perspectives described in the methodology, including financial, customer, business process, and learning and growth. Besides, some of the process metrics documented in the findings are quality, time, cost, variability, employee engagement, training, and customer satisfaction. Management reviews are

conducted to evaluate the effectiveness of the management system. Various performance management systems used to support the LSS system are described in each case study.

One of the interesting findings from this study was the LSS candidate selection process and program deployment process. Each case study revealed a distinct process for selecting LSS candidates, and there were significant variations between the processes. However, the question arising from this finding, was if variation in candidate selection has an impact on the training and project results? Further research needs to be done to determine if a correlation exists between candidate selection and results (training and projects). Another interesting finding from this study was based on the program deployment process. Based on the findings, the deployment process can occur for different reasons; financial growth, problem-solving, change the way we work, project management, training, and strategic initiative. However, regardless of the reason, three factors were consistent across the case studies, top leadership involvement, management review, and linking the initiative to the strategy.

This study also revealed findings that disagreed with what was reported in the literature. A study by Bryson (2011) reported that performance measurement in the nonprofit sector is complicated because nonprofits often pursue missions, which are difficult to measure. Other researchers suggested that financial measures might not be appropriate for nonprofits because they are mission-driven and not profit-driven (Jaskyte, 2020). However, this is not the case with nonprofits implementing LSS. In this study, each case analysis had a functional performance measurement system for collecting, analyzing, and reporting data with regard to the LSS program and organizational

performance. Besides, each case tracked the financial impact of the projects, as a primary or secondary measure.

The cases also incorporated a daily management system that allows them to track their goals, take corrective action, and check improvement. The management system's key elements were business strategy, goal deployment, daily performance measure dashboards, daily action planning, problem-solving, and decision making. The literature also stated that the success rate of nonprofits is often measured by how well the organization fulfills its mission and not profits because profits can drive the wrong behavior (Sampson, 2004). The nonprofits using LSS measured how well the organization fulfills its mission and its profit from project execution. The LSS program track the balanced score elements, and the LSS projects have key performance indicators (KPI's) that are tracked to determine project success. The criticism introduced by Sampson (2004) did not impact or translate these cases because each case in this study used a balanced approach to their measures. They used the LSS program to improve the mission, but they also used the program to enhance customer and employee satisfaction, reduce costs, improve the processes, and train and develop staff.

The study findings also presented a theoretical proposal that needs to be tested, which is Change Management. Lean Six Sigma programs and projects create change for organizations, and only one nonprofit participant discusses change management as a framework used with LSS. Change management ensures that the identified change is carried out effectively and efficiently. LSS is a change management tool at a high level, but it focuses on change in the processes. The change from the employees' perspective is not addressed by Lean Six Sigma. Therefore, change management needs to be tested as

part of the nonprofit deployment of an LSS strategy. When a nonprofit organization undertakes projects or initiatives to improve performance, develop opportunities or address critical issues, they often require change driven by both the process and people. This study finding reveals a concern on how nonprofits handle the change driven by the people.

How are small, medium, and large NPOs in the Midwest using the Lean Six Sigma program?

The DMAIC method (Define, Measure, Analyze, Improve, Control) focuses on improving existing processes. Lean Six Sigma can also reduce unnecessary costs. Nonprofits used LSS to improve process efficiency by eliminating waste and reducing defects. LSS program focuses on education and employee development while using a balanced method to manage cost, efficiency, and effectiveness. Lean and Six Sigma combines tools, techniques, and principles into one robust methodology for improving your organization's operations.

What factors influence and contribute to the success of the Lean Six Sigma Programs in NPOs?

Introducing a Lean Six Sigma framework requires a shift in focus across the entire organization. LSS culture can transform employees. Leadership commitment to LSS is vital. There must be active leadership support from top management and participation from staff. When leadership selects projects, they need to make sure that the project has a manageable scope. Multiple tools, processes, and systems are essential as a success factor contributing to the LSS program. The LSS journey starts at the top, where

executive leadership must communicate the Six Sigma methodology's benefits through the organization.

From the executive leadership viewpoint, what are the benefits, if any, of implementing the Lean Six Sigma program in NPOs?

Lean Six Sigma speed up the potential for organizations to achieve their missions and strategic goal mouth. Employees and customers benefit from Lean Six Sigma. LSS has provided various benefits from an executive viewpoint, such as improved customer experience, more efficient process flows, and waste removal. Leaders experienced a reduction in costs associated with improvements to processes and employee involvement through their participation in the program. Lean Six Sigma focuses on improving product delivery methods and customer satisfaction activities. A successful LSS program can have a tremendous financial and nonfinancial benefit to nonprofits.

Theoretical Frame Connection

Two theoretical frames guided my research, and they were Balanced Scorecard Theory and Contingency Theory. The balanced scorecard theory involves measuring four main aspects of a business: learning and growth, business processes, customers, and finance. The focus of the study was on financial and non-financial performance measures for nonprofits. The behind-the-scene theoretical frame question that I used to guide the study was: is their Lean Six Sigma program performance measures balanced? The Balanced Scorecard Theory connected to the story in the following elements: learning and growth (aligns to LSS training program), business processes (align to the LSS project and process metrics), customers (aligns to customer satisfaction), and finance (aligns to the LSS project financial results).

The contingency theory assumes that a leader's effectiveness is contingent on whether their leadership style suits a particular situation. The study concentrated on the organizational leader and project leader. The behind-the-scene theoretical frame question that I used to guide the study was: does the leadership style match the situation? The particular situation in the study projected alignment connection to the business strategy. The leadership style was not a factor for selecting LSS leaders, so a clear link could not be drawn or aligned to leaders' effectiveness. A question for future research, should the leadership style be used as a success factor for selecting an LSS leader?

Finally, this study finding revealed potential best practices from the implementation of LSS. This study identified the following components as best practices because they have been shown through research, experience, and practical application to produce optimal results, and they are appropriate for widespread adoption across other nonprofits.

Implications

There are limited studies that have been conducted on the impact of Lean Six on nonprofits from a financial and non-financial perspective. This study is critical because there are several gaps in the literature. Although previous research has focused on LSS in nonprofits, only the Lean Six Sigma DMAIC methodology has been reported. The current study demonstrates the need to implement Lean Six Sigma in nonprofits, the associated benefits, and how to prepare for the implementation of such programs to reduce the risks and costs. Previous literature also discusses why Lean Six Sigma does not work in a nonprofit environment. There have been debates that nonprofits' success is often measured by how well the organization fulfils its mission and not profits because

profits can drive the wrong behavior. This study contributes to a clearer understanding of how Lean Six Sigma effectively impacts the financial and non-financial measures in nonprofits.

This study advances the field by providing insights into how nonprofits are using the LSS program to improve their financial and non-financial performance measures. The study highlights additional factors outside of the DMAIC framework and tools that influence and contribute to the impact of Lean Six Sigma Programs' success in nonprofits. From an executive leadership viewpoint, the study highlights the benefits of implementing the Lean Six Sigma program in nonprofits. The study also provides new insights into the relationship between other performance management systems that support LSS implementation. The study has also demonstrated the financial impact of the program and how LSS candidates are selected.

Because nonprofits face business challenges and problems, I highly advise introducing LSS to the organization to drive business improvements. Any organization that uses a repeatable process can apply Lean Six Sigma to become more efficient and productive, and nonprofit organizations have repeatable processes that could be streamlined and improved with Lean Six Sigma. There is no one size fit all LSS program implementation approach. Each nonprofit needs to examine and analyzing the organization's needs, mission and objectives to determine the optimal strategy. These cases illustrate the impact the LSS program has on nonprofits' financial and non-financial performance. The research endorses the LSS program approach to improve efficiency, consistency, and value-added fundamentals.

Best Practices: The best practices were identified through cross-case analysis. A cross-case analysis was performed to establish some similar characteristics across all the cases. The following best practices were identified in each case:

1. Voice of the customer (VOC) – gather customer data to prioritize process improvement efforts. This methodology is used to find out customers' needs and wants. VOC starts with defining LSS Goals for collecting and analyzing customer requirements. The LSS project team members must identify customer needs and select the most effective technique for collecting customer feedback and requirements. VOC is converted into measurable, actionable project objectives and used to define the problem.

2. Kaizen Event – instead of rolling out a complete LSS program, an organization should start small. Kaizen events are an extremely efficient way to improve a process quickly. Kaizen event lasts for only a few days, and the core focus is to eliminate waste and variation, improve productivity in one business process.

3. A3 Report – improve project communications. A3 is an effective visual tool for driving improvement, and it helps project teams work together on comprehensive problem solving to achieve a common goal.

4. Leadership support – get the leadership involved at the beginning. Successful implementation of LSS requires executive leadership support. Leadership should communicate the initiative's importance, ensure that projects are aligned to organizational strategy, allocate resources, set vision, approve project selection methodology, etc.

Conclusions

The knowledge generated in this study enhances the understanding of the impact of Lean Six Sigma on the financial and non-financial performance of nonprofits.

Leadership plays a very critical role when implementing the LSS program. Leadership at all levels must be active and committed to positioning the organization for success. Executive leadership must be committed to convincing the employees why Lean Six Sigma is essential to the organization. In one of the case studies, Lean Six Sigma nonprofit experience was found to have cost savings of between $30,000 and $270,000,000 over ten years. LSS nonprofits use a balanced approach to performance measures. I reviewed the literature, highlighting Lean Six Sigma in nonprofits and used it to measure nonprofit organization's performance. The voice of the customer approach is central to business strategy and organizations. The daily management system is an essential ingredient in culture change because it requires the leaders to change problem-solving.

Understanding when and where to use the tools of LSS in the nonprofit is challenging, especially in the early implementation phase. The findings from this study showed that LSS can be applied to activities in nonprofits to eliminate waste and process improvements. Communicating LSS success throughout the organization drives employee satisfaction, therefore, it is important to prioritize, quantify and eliminate waste, and variations in the process to increase quality as the costs are reduced. Performance measures and metrics are essential contributors to the LSS program. By focusing on relationships and change among the people, LSS produces lasting change and build mutual respect amongst all involved in the process

Suggestions for Future Research

This study focused on successful LSS implementations in nonprofits. Further research is needed to establish the factors that affect the successful implementation of

LSS and that which can be identified as the best practice knowledge for nonprofits interested in deploying LSS. There being limited literature on this topic, there is a need to build upon this research topic, on the impact of lean six sigma on financial and non-financial performance for nonprofits. Further research is needed to establish processes to introduce other Lean Six Sigma measures in a nonprofit environment, such as Rolled Throughput Yield (RTY), Defects per Unit (DPU), Defects per Million Opportunities (DPMO), and First Pass Yield (FPY). Future research should include larger sample size and scope which includes nonprofits outside of the Midwest. A correlational study can be conducted in future research to examine the relationship between the size of the nonprofit and the financial impact. Further research is needed to understand how Change Management and Lean Sigma works together in a nonprofit environment. I also encourage further research on implementing organizational change and improvement using LSS within all levels.

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APPENDIX

Interview Protocol

Pilot Study (Interview Questions)

A pilot study was conducted with an unrelated party to validate the effectiveness of the study instrument. The pilot study was a brief introduction of the interview questions to confirm the effectiveness and uncover any potential implementation problems. The interview questions were sent to the unrelated party via email to examine possible responses. The risks associated with the pilot study were low, and there was zero cost. Based on the pilot study results, revisions were made to the interview questions that will be used in the final rollout plan.

Planning a Pilot Study Notes

Where: the scope and area of the pilot study should be chosen carefully and be a representative of the wider process as possible.

When: the timeframe of the pilot study must be sufficient for the process to respond to the solution implemented, and should also be clearly communicated to state holders.

How: A data collection plan must be in place in order to capture the results of the pilot study.

Interview Questions

Time of interview:

Date:

Place:

Nonprofit Organization: _____

Interviewee (Title and Name): _____

How long have you been at the organization?

How long have you been in your position?

(Briefly describe the study)

Interview Questions

1. How is the Lean Six Sigma program perceived within your organization? (perceived by leadership and employees)
    a. How is the program being used in the organization?
2. What are the results of the Lean Six Sigma program?
    a. What percentage of the organization is using the program?
3. How do you manage the cost, efficiency, and effectiveness of Lean Six Sigma in your organization?
4. How do you review your organization's performance and capabilities?
5. What are your process effectiveness and efficiency results from the use of Lean Six Sigma?
6. What factors contribute to the success or failure from the implementation of Lean Six Sigma?
7. What are the perceived benefits of using Lean Six Sigma?

8. What challenges have you faced when implementing Lean Six Sigma in your organization?
9. What are some lessons learned during the implementation of Lean Six Sigma that you would recommend for other nonprofit organizations?
10. What other performance management program practices has the organization adopted other than LSS?

Fieldwork Entry (Patton, 2015, p. 408)

Substantive Priorities	Interpersonal Process Priorities
a. Observe and record baseline description of the setting and context.	a. Explain why you are there; adapt explanation based on feedback and questions
b. Identify and recruit informants or key knowledgeable.	b. Make the acquaintance of key people with the help of a champion or gatekeeper; learn names, roles, who is connected to who in what ways.
c. Establish procedures for observations and disciplined note taking.	c. Find your way around the setting; get comfortable, settled in.
d. Learn about important events, activities, or occasions that should be observed.	d. In collaborative inquiries, orient and train your co-researchers.

e. Begin implementing the inquiry design, making adjustments as needed (and recording reasons for adaptations).	e. Get the logistics set up to facilitate your fieldwork.
	f. Watch for and start learning the specialized language people use.

Consent Form

Organizational Growth: The Impact of Lean Six Sigma on Financial and Non-Financial Performance for Nonprofits

A. PURPOSE AND BACKGROUND

My name is Jimmie Gray, a doctoral student pursuing a Doctor of Education in Leadership Studies at Ashland University. I have recently begun my dissertation research journey and my research study topic is entitled: The Impact of Lean Six Sigma on small and medium-sized Nonprofits. The purpose of this study will be to explore the forces creating resistance to the application of Lean Six Sigma in small and medium-sized nonprofit organizations, if the organizations have attempted to implement the programs, and the factors influencing the success of the programs. This research will add to the body of knowledge on the implementation of the Lean Six Sigma program in small and medium-sized nonprofit organizations in the Midwest. This research will also potentially assist in creating awareness of the effectiveness of these programs.

B. PROCEDURES

If you agree to be in the study, the following will occur:

Informed consent is provided, and you will be required to read and sign to acknowledge that you understand the details of the study. You will be required to understand the

following: (1) all information will be held confidential, (2) your participation is voluntary, and you may withdraw from the study any time if you feel uncomfortable, and (3) there will be no foreseeable risks from this study.

You will be required to return the signed consent form via email to the listed email address. You will be contacted via email to schedule a day and time for interviews to be conducted. Further, if interviews are available in person (face to face), you will be required to grant permission to the researcher to record the interviews. Your participation will require you to answer 10 open-ended semi-structured interview questions. Knowledge of the implementation of Lean Six Sigma on small and medium-sized Nonprofits will be valuable in this study.

Your interview will be video recorded using the Zoom record feature. Your identity will not be revealed to anyone but the principal investigator or possibly the dissertation committee. The information from the recorded interviews will be transcribed and destroyed after verification. The interviews will last for about 1 hour.

C. RISKS or DISCOMFORTS

There are no known risks to the participants.

D. BENEFITS

There will be no direct benefit to you from participating in this study. However, the information that you provide may help nonprofit organizations better understand the impact of Lean Six Sigma on financial and nonfinancial performance.

E. COSTS

There will be no costs to you as a result of taking part in this study.

F. PAYMENT

There will be no payments to you as a result of taking part in this study.

G. QUESTIONS

If you have any questions about the research study, please feel free to contact:

Jimmie Gray (Researcher) 330-962-7088 or email jgray14@ashland.edu,

Dr. Judy A. Alston (Advisor) 832-724-5167 or email jalston@ashland.edu

Dr. Peter R Mallik (HSRB Chair) 419-289.5340 or email pmallik@ashland.edu

H. CONSENT

You will be given a copy of this consent form to keep.

PARTICIPATION IN RESEARCH IS VOLUNTARY. You are free to decline to be in this study or to withdraw from it at any point. Your decision as to whether or not to

participate in this study will have no influence on your present or future status as a participant.

If you agree to participate, you should sign below.

_____	_____
Date	Signature of Study Participant
_____	_____
Date	Signature of Person Obtaining Consent

Seeking study participants

Hi ----------,

My name is Jimmie Gray, a doctoral student pursuing a Doctor of Education in Leadership Studies at Ashland University. I have recently begun my dissertation research journey and my research study topic is entitled: The Impact of Lean Six Sigma on small and medium-sized Nonprofits. The purpose of this study will be to explore the forces creating resistance to the application of Lean Six Sigma in small and medium-sized nonprofit organizations, if the organizations have attempted to implement the programs, and the factors influencing the success of the programs.

This research will add to the body of knowledge on the implementation of the Lean Six Sigma program in small and medium-sized nonprofit organizations in the Midwest. This research will also potentially assist in creating awareness of the effectiveness of these programs.

I am tentatively looking to start data collection in February 2021, and I will use the following data collection instruments to answer the research question(s):

a. Interviews

b. Document Review

I sincerely hope you agree to participate in the study. Your participation will be voluntary, and you can decide to be a part of this study or not. Your identity will remain confidential. Your time and involvement are profoundly appreciated.

If you have any questions about the research study, please feel free to contact me at 330-962-7088 or email me at jgray14@ashland.edu.

Thanks for your time, and I look forward to speaking with you.

Sincerely,

Jimmie Gray

Ashland University

330-962-7088