An Interpretive Phenomenological Approach to Understanding Employee Meaning of Lean and Respect for People

Brian Charles Sloan CMA, CPA, MBA

A thesis submitted in partial fulfilment of the requirements of
Edinburgh Napier University, for the award of Doctor of Business Administration

October 2017

DECLARATION

I declare that this work has not been submitted for any other degree or professional qualification. This thesis is the result of my own independent work.

October 29, 2017

ACKNOWLEDGEMENTS

I owe a debt of gratitude to many people for the completion of this thesis. Firstly, to my supervisors, Mr. Grant MacKerron and Dr. Gerri Matthews-Smith, your support, guidance and encouragement has made all the difference in completing this journey.

To the teaching staff of the business school at Edinburgh Napier University, your kindness and generosity in sharing your passion and talent for teaching and research is greatly appreciated. Your enthusiasm was contagious and inspired me to pursue my dream to teach and to conduct research.

To my classmates, your companionship, concern and support along this academic journey created an opportunity to form lifelong friendships. I am much better off for such relationships. We have fought the good fight together.

To the employees of the case company, your enthusiasm and willingness to share openly and honestly for the betterment of Lean and the company touched me deeply. You shared with me important parts of your work life experiences, and I am privileged to have earned such a level of trust that you would freely share them with me.

To my family, thank you for your patience with my many absences from familial events. To my friend Charles McMillan, your time and effort given to proof-reading, subject material comments and suggestions has been invaluable. To my Sensei Greg Whitlock, your gift of Lean mentorship and leadership came just at the right moment. You shall be remembered always.

Finally, to my wife Lynn, there are no words to describe the gift you have given to me to pursue my goal of a doctorate. Your love and support has always, is always, and will always make everything I aspire to possible.

Table of Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF RESEARCHER REFLECTIVE JOURNAL ENTRIES

5S: a method used to organise physical space and items. It is geared toward eliminating waste and providing visual control. The five phases of 5S are sort, store, shine, standardise and sustain (Delisle and Freiberg, 2014).

Just-In-Time (JIT): in a flow process, the right parts that the manufacturing process needs arrive at the right time and in the right amount (Pacheco et al., 2015).

Kanban: a material control mechanism which delivers the right quantity of parts at the right time (Sundar et al., 2014). Taiichi Ohno, an industrial engineer at Toyota, developed Kanban to improve manufacturing efficiency (Sugimori et al., 1977).

Lean Manufacturing (LM): a process to enable organisations to provide their customers with the product or service needed exactly when needed. Any potential sources of waste are identified and eliminated in order to achieve and maintain high quality and low manufacturing costs (Rymaszewska, 2014).

Lean Production (LP): the use of less of everything – half the human effort in the factory, half the manufacturing space, half the investment in tools, half the engineering working hours to develop a new product in half the time (Krafcik, 1988). It requires keeping far less than half the inventory on site, results in fewer defects, and produces a greater and ever growing quality of products (Womack et al., 1990).

Lean Six Sigma (LSS): the combination of two improvement approaches that originated from different parts of the world. The main focus of the Lean approach is on improving flow between processes and on reducing waste and variability. Six Sigma mainly concentrates on improving the processes themselves by closely examining causal relations through the collection and analysis of data (Timans et al., 2016).

Muda: a Japanese word for waste. Waste is anything that does not add value to a product (Ruiz-de-Arbulo-Lopez et al., 2013). Muda can also be described as any human activity which absorbs resources but creates no value (Chowdary and George, 2012).

Single Minute Exchange of Dies (SMED): a method that reduces setup operations. A reduction of setup operations leads to reduced WIP inventories (Chiarini, 2011).

Taiichi Ohno: an architect of the Toyota Production System (Emiliani and Seymour, 2011).

The Socio-Technical System (STS): in the socio-technical system, work is considered in the context of social and technological parts with the purpose of optimising the quality of working life and technological performance. It originated with the Tavistock Institute in the UK in the 1950s (Kosuge, 2014).

Theory of Constraints (TOC): originally developed by Dr. Eliyahu Goldratt, the Theory of Constraints was conceptualised as a philosophy of continuous improvement and included a systematic approach to organisational problem solving in the form of five focusing steps (Kim et al., 2008).

Total Quality Management (TQM): is the term used to describe quality practices within organisations characterised by three core principles: customer focus, continuous improvement and employee involvement (Oliver, 2009).

Toyota Production System (TPS): a system of production developed by the Toyota Motor Company which combines the advantages of craft production with those of mass manufacturing (Mirdad and Eseonu, 2015). TPS is sometimes used as a synonym for Lean (Hasle et al., 2012).

Total Productive Maintenance (TPM): a Lean manufacturing method that contributes to the optimisation of predictive, preventive and corrective maintenance activities in order to achieve the maximum level of efficiency and profit from production equipment (Brah and Chong, 2004).

Value Stream Mapping (VSM): a Lean method that visually identifies and measures waste resulting from the inefficiency, unreliability and incapability of information, time, money, space, people, machines, material and tools during the transformation process of a product (Pavnaskar et al., 2003).

Visual Control: a system of signs, information displays and work tools designed to manage and control processes to provide an immediate understanding of a situation or condition (Mann, 2005).

Whiteboards: dry erase boards are often used in Lean implementations to display information directly in the work area. Employees are responsible for populating whiteboards daily with such things as continuous improvement ideas, production metrics, job sequences, quality measures, value stream maps and work instructions.

Work in Process (WIP): a term for partially completed products in a manufacturing process.

ABSTRACT

Lean is a popular approach for improving operational efficiencies in an organisation through the reduction of wasteful activities. Entities of every size and description today are implementing Lean techniques to maximise customer value, operational effectiveness and organisational profits. Organisations enter into the Lean world with high hopes of reducing costs and product and/or service lead time and increasing on-time delivery and quality. Unfortunately, success stories in Lean are infrequent.

Taiichi Ohno, an architect of the Toyota Production System, upon which Lean was founded, stressed the importance of Respect for People as a requirement for successfully implementing Lean methodologies. While a great deal of the academic literature has focused on the positive benefits that Lean techniques and methodologies provide for the organisation, little research can be found on the notion of Respect for People. It would appear that many practitioners and researchers do not subscribe to Taiichi Ohno's theory that the operational benefits of Lean cannot be realised without a supporting organisational culture of Respect for People. Instead, there is evidence in the literature that Lean methodologies negatively impact employees tasked with implementing and sustaining Lean, suggesting that, from the employee perspective, Lean can be mean.

Employing an interpretive phenomenological approach and using a semi-structured interview method within a single case company, Respect for People was found to be much more than a tautology. It was instead a complex notion implicitly linked in the minds of employees to their understanding of what Lean is. A framework of core concepts and associated dimensions were identified for the phenomena of Lean and Respect for People. From the employee perspective, Lean did not have to be mean. By developing a deeper understanding of the employee experience of both Lean and Respect for People, organisations could better position themselves to enhance Lean implementations with a shared cultural understanding of what Lean and Respect for People means for its employees.

CHAPTER ONE: INTRODUCTION

The purpose of this study was to examine the lived experiences of employees in relation to Lean and Respect for People. Taiichi Ohno, one of the founders of the Toyota Production System (Yamamoto and Bellgran, 2010), from which the concept of Lean is derived (Womack and Jones, 2003), premised in his book 'Toyota Production System: Beyond Large-Scale Production' (Ohno, 1988) that the elimination of wasteful activities and the notion of respect for humanity must work together to implement and sustain Lean initiatives (Ohno, 1988:xiii):

> *The most important objective of the Toyota system has been to increase production efficiency by consistently and thoroughly eliminating waste. This concept and the equally important respect for humanity that has passed down from the venerable Toyoda Sakichi (1867-1930), founder of the company and master of inventions, to his son Toyoda Kiichiro (1894-1952), Toyota Motor Company's first president and father of the Japanese passenger car, are the foundation of the Toyota Production System.*

The impetus for this study came about as an outcome of fifteen years of practice and experience in applying Lean techniques in both office and shop floor environments, in a role that divided time between implementing Lean methodologies within an organisation as an employee and implementing Lean methodologies for clients as a consultant in the automotive manufacturing sector.

Many organisations attempt to implement Lean methodologies. However, as noted both through personal experience and the review of the academic literature, few are successful in establishing those methodologies (Coetzee et al., 2016, Dombrowski and Mielke, 2014). Of those who are successful in Lean implementation, fewer still are able to sustain it long enough to enjoy the benefits of Lean which include reduced operating costs, improved operational efficiencies, better quality products or services and more engaged employees performing the work (Kollberg et al., 2007). Lean methodologies and practices are based on the study and understanding of the Toyota Manufacturing Company production system known as the Toyota Production System (TPS) (Mirdad and Eseonu, 2015, Gupta et al., 2016).

The high rate of Lean implementation failures may be due in part to researchers and practitioners alike ignoring Ohno's (1988) premise that the notion of Respect for People is an important ingredient for successfully implementing Lean methodologies. By focusing too heavily on the tools and techniques of Lean, academics and practitioners may be missing an opportunity to enhance the outcome of Lean implementations. An examination of Respect for People and its potential impact on the people tasked with Lean implementation may provide opportunities to further enhance the implementation of Lean methodologies. The notion of Respect for People may not be a simple self-evident truth, but something more complex that needs to be examined and understood by academics and practitioners as thoroughly as the Lean tools and techniques themselves.

Lean theory development was addressed in this study at the intersection of operations management and organisational culture. There are multiple levels at which culture exists and is manifested in organisations (Hofstede et al., 1990). Edgar Schein (1992), for example, proposes a model of cultural analysis that consists of three levels: artifacts, espoused values, and the tacit, basic underlying assumptions that are manifested as behavioral norms (Schein, 1992). This model was used as a starting point to provide a framework for understanding Lean and Respect for People from the employee perspective. Could an examination of employee espoused values and underlying assumptions reveal cultural factors important to an operational performance objective such as the adoption of Lean methodologies°

Given the time and resource constraints of a doctoral study, it was necessary to narrow down the focus of the work and therefore the study focused on the employees of one manufacturing company. The case company was founded in 1969 as a family operated small machine shop with two employees. At the time of the research study it employed 160 employees and offered forty thousand square feet of manufacturing capacity. The eleven employees who participated in the semi-structured interview and focus group process were drawn from front line labour, front line supervision and senior management. Types of work done at the front-line level included design, programming, machining, wiring, assembly and inspection. Supervisory employees were those that had some authority over the front-line employees and/or the work to be completed. The type of work done at this level could include project management, procurement or

front-line supervision. Senior management were responsible for the operations of a business unit and had many years of experience in the skilled trades prior to becoming managers.

Product lines for the case company included machine automation cells, stamping dies and CNC tooling. Ninety percent of sales were automotive related and hence the company had exposure to Lean practices within the automotive supply chain. The researcher was hired by the firm in 2009 as a Controller and Lean Facilitator with the mandate to improve internal financial processes and to implement Lean methodologies throughout the organization. While having good success in improving financial processes, initial Lean initiatives on the shop floor did not make a significant impact. The case company encountered a number of Lean failures and had to restart its Lean initiatives a number of times. However, repeated attempts at implementing Lean are not uncommon for many organisations (Scherrer-Rathje et al., 2009).

While the concepts of Lean and Respect for People may well be significant to other industries or types of organisations, this study was firmly located in the company for whom the researcher worked. The study was conceptually bound. It focused on two bodies of literature: Lean and Organisational Culture. Other literatures such as Operations Management and Strategy potentially offered valuable insight into the nature and complexity of Lean. However, the intersection of Lean methods and organisational culture to date had not been well studied and therefore was of primary interest. Future studies will offer the opportunity to extend these boundaries and contribute to the work completed in this study.

The overall aim was to investigate and better understand the meaning of Lean and Respect for People from the employee perspective. The research objectives for the study were to:

1. Identify cultural themes of employee meaning for Lean and Respect for People.
2. Explore the impact that the phenomenon Respect for People could have on the acceptance of Lean methodologies by employees.
3. Develop a conceptual model of meaning for Lean and Respect for People.

Data analysis employed an interpretative phenomenological approach. Thematic analysis revealed a number of contributions to theory and practice. Contributions to theory included a conceptual model representing the interconnectedness of Lean and Respect for People; a rich and detailed explanation of employee lived experiences of Lean and for Respect for People; Lean was not necessarily mean to employees; Schein's multi-level organisational culture model as an appropriate framework for examining Lean culture; evidence of a phenomenon of Disrespect for People; and the notion of Respect for Self as foundational to the Respect for People phenomenon.

Contributions to practice included the complexity with which employees viewed the notion of Lean and of Respect for People; The implicit link Lean between Respect for People in the minds of the employee; phenomenological interviewing that reflected some of the Respect for People dimensions; interviewing revealed existing employee Lean knowledge and work experiences; Schein's multi-level organisation culture model as a useful framework for practitioners to develop their own conceptual model; and employees considering the notion of Respect for Self as foundational to the other Respect for People concepts.

The structure for the balance of the study is as follows. There are six chapters in total. Chapter Two represents a critical analysis of the Lean literature. Chapter Three discusses the research methodology that was developed to answer the research questions established from the literature review. This chapter includes a brief overview of the research philosophy. It also provides justification of the research choices made during the research processes, discusses ethical considerations, and describes the research methodology. Chapter Four reveals the analysis methods applied to the data and the findings derived from the research conducted. Chapter Five enters into a critical discussion of the findings in relation to the Lean and organisational culture literature. A conceptual model is presented. Lastly, Chapter Six draws the study to a close by providing an evaluation of the strengths and limitations of the study, a reflective summation and recommendations for research and practice.

CHAPTER TWO: LITERATURE REVIEW

2.1 Chapter Introduction

A critical literature review in the areas of Lean and organisational culture was conducted to understand the historical and prevailing academic discussions in both literatures. Using the Edinburgh Napier University Online Library business database search engine ABI/INFORM Complete, electronic keyword searches were used to identify published research articles in the disciplines of Lean and organisational culture. The following table demonstrates the total number of combinations of word searches employed.

Table 1 - Key Word Searches

Key Word Searches	
1. Lean	Company culture Organizational culture Organisational culture
2. Lean manufacturing	Company culture Organizational culture Organisational culture
3. Continuous improvement	Company culture Organizational culture Organisational culture
4. TQM	Company culture Organizational culture Organisational culture
5. Total Quality Management	Company culture Organizational culture Organisational culture
6. JIT	Company culture Organizational culture Organisational culture
7. Just in Time	Company culture Organizational culture Organisational culture
8. Just-in-Time	Company culture Organizational culture Organisational culture

Key word searches for Lean were 'Lean,' 'Lean Manufacturing,' 'Continuous Improvement,' 'TQM,' 'Total Quality Management,' 'JIT,' 'Just in Time' and 'Just-in-Time'. Each of these research terms returned a tremendous number of results. Key word searches for organisational culture consisted of 'Company Culture', 'Organisational Culture' and 'Organizational Culture' resulted in a similar outcome. Each Lean word search was then combined with each of the three organisational culture word searches to narrow down the results. For example, a search was conducted using the word combination of 'Lean' and 'Organisational Culture.' Another search used the word combination of 'Lean' and 'Organizational Culture.' It was noted early in the search process that words such as 'organisational' could also be searched with the alternate spelling of 'organizational.' Searches revealed numerous journal papers unique to each word spelling. From these searches was constructed an extensive but not necessarily exhaustive Endnote library collection of over five hundred peer reviewed articles for analysis over the course of the development of the study.

The breadth of the Lean literature at the time of this study was enormous. The time line of material studied encompassed research from the late 1980s with the works of Krafcik (1988), Womack (1990), Ohno (1988) and Shingo (1988) to present day work by authors too numerous to mention. The Lean literature was and continues to be subject to vociferous debate on what Lean is and how best to take advantage of the Lean production system. The current body of Lean literature reveals all types of organisations around the world implementing Lean methodologies with varying degrees of success. These studies support a presently held notion that Lean transcends manufacturing applications and can apply equally to many other types of organisations (Vago et al., 2016, Hayes et al., 2014, Powell et al., 2014, Burgess and Radnor, 2013, Danielsson, 2013, Dora et al., 2013, Okoye et al., 2013, Carter et al., 2011, Suarez Barraza et al., 2009).

Disappointingly, from both personal experience and from the work conducted by Lean researchers such as McLean et al., (2015), Aij et al., (2015), Jadhav et al., (2014), Bhasin (2013), Mostafa et al., (2013), Naslund (2013), Harwood (2012) Losonci et al., (2011) and Hine (2010), few organisations are able to sustain Lean methodologies successfully and

therefore benefit from the advantages ascribed to Lean methodologies. It is this gap between Lean theory and Lean practitioner outcomes that prompted the basis for this study.

The balance of this chapter unfolds in the following manner. A brief history on the origins of Lean is provided for context. The benefits of Lean are described. A discussion on the definition of Lean then follows. The major research positions of the Lean literature are critiqued. Lean methodologies and perspectives are examined. A discourse on organisational culture, Schein's multi-level organisational culture model and Respect for People ensues. A summary brings the chapter to a close and research questions are posited.

2.2 A Brief History on the Origins of Lean

The origins of Lean are well documented in the literature (Jasti and Kodali, 2015, Drotz and Poksinska, 2014, Gamme and Aschehoug, 2014, Lucato et al., 2014, Hasle et al., 2012, Stone, 2012). Researcher John Krafcik originally coined the term 'Lean production' while working for the International Motor Vehicle Program established at the Massachusetts Institute of Technology in 1985. He and fellow researchers carried out a comprehensive benchmarking study of automobile assembly plants worldwide in order to understand differences in quality and productivity. The results of this benchmarking study were published in the book '*The Machine that Changed the World*' (Womack et al., 1990). The word Lean was suggested because, according to the authors the best assembly plants, the Japanese plants, used less of everything in comparison to mass production methods – half the human efforts in the factory, half the manufacturing space, half the investments in tools, half the engineering hours to develop a new product, and launching new products in half the time (Krafcik, 1988). Lean production practices also required keeping far less than half the needed inventory on site, resulting in fewer defects while producing a greater variety of products (Womack et al., 1990). Further research determined it was primarily Toyota Motor Company using this production method (Graban, 2009, Womack and Jones, 2003).

Toyota Motor Company, since its formation in the 1930s (Ohno, 1988), has worked to develop a different kind of manufacturing process, the Toyota Production System (TPS), which today looks and operates very differently from the mass production system pioneered by Fredrick Taylor and Henry Ford (Duguay et al., 1997). It uses the best practices of craft production such as customer focus, and with no production being initiated without a specific order from the customer (Holweg, 2007). TPS works with small batch sizes, small inventories, more customisation and has lower cost advantages than mass production (Dankbaar, 1997). Beginning in the 1950s, with the help of American engineers and management consultants Edward Deming and Joseph Juran, Toyota began to significantly improve the quality of its products (Schonberger, 2007, Andersson et al., 2006). A lack of resources forced Toyota's executives such as Eiji Toyoda, Taiichi Ohno and Shigeo Shingo to develop a manufacturing system that would use fewer resources while maintaining product quality (Woehl, 2011, Emiliani, 2000, Ohno, 1988). Toyota could not afford the cost of producing vehicles required with a mass production system (Emiliani, 2000, Ohno, 1988).

2.3 Benefits of Lean

The benefits of Lean production began to become attractive to other organisations in automotive manufacturing because increased quality and productivity, lower manufacturing costs and reduced product lead times could create powerful competitive advantages in the market place (Håkansson et al., 2017, Zhou, 2016, Belekoukias et al., 2014, Krishna and Sharma, 2014, Pakdil and Leonard, 2014, Karim and Arif-Uz-Zaman, 2013, Pavnaskar et al., 2003). These other automotive manufacturers wished to enjoy the same market success of Toyota Motor Company by using a process that encouraged improved quality with less of every type of input while maintaining high levels of productivity just as Toyota Motor Company proved could be done (Krafcik, 1988).

Today, organisations of every stripe from food processing to health care to government services are implementing Lean methodologies to realise these benefits (Dora et al., 2013, Chowdary and George, 2012, Kumar and Bauer, 2010, Joosten et al., 2009, Lee-Mortimer, 2006). For example, a study by researcher Lee-Mortimer (2006) documented a number of cost savings and production improvements from Lean activities at Siemens

Standard Drives, a UK based manufacturer of electronic drives. Cost savings were derived by employing such Lean methodologies as an employee suggestion program (£1.6m since inception), continuous improvement teams (six figures savings annually) and single minute exchange of dies (67,000 extra circuit boards produced annually without any extra costs). Results included improved workload balancing and product flow, reducing the number of operators required by 20%, reducing WIP by 98% and increasing manufacturing output by 25%. Floor space required for manufacturing of product was reduced by 33% (Lee-Mortimer, 2006). In another example, Chowdary and George (2012) documented findings of reduced lead times, cycle times and WIP inventory in a production line of a pharmaceutical manufacturer. Further, the storage area was reduced by thirty-eight percent and production staff was reduced by fifty percent (Chowdary and George, 2012). These studies revealed that the organisational benefits of Lean were possible in many types of enterprises.

2.4 Defining Lean

Many academicians and practitioners have made attempts to define Lean (Gupta et al., 2016). Some researchers have compared the various approaches of defining Lean to the fable of the six blind men attempting to define an elephant by touching various parts of its anatomy (Andersson et al., 2006). In the story, each blind man touches only a part of the elephant. Each describes what the elephant feels like. For example, one blind man says the elephant feels like a wall, while another blind man describes the elephant as a snake. In perhaps a similar fashion, researchers in the field of Lean have attempted to apply labels to the Toyota Production System from their perspective of understanding at the time of their research studies. These labels are used interchangeably throughout the Lean literature (Stone, 2012, Amasaka, 2008, Hines et al., 2004).

While some labels can, for the most part, be associated with a particular time period in the evolution of the Lean literature such as the early adoption of the Just-In-Time label, confusion and obfuscation grows as each generation of researcher brings their particular label of Lean to the literature by creating a new label or re-using an earlier label. As an example, in a more recent study, Emiliani (2006) postulates that the labels ‘Lean Manufacturing’ and ‘Lean Production’ used in earlier studies imply ‘a narrow focus and

is now recognised as incorrect because Lean principles and practices can be applied to any organisation' (Emiliani 2006:167). His preferred description for this management system is instead Lean Management. Emiliani further argues that Lean management implies a higher order of thinking beyond a manufacturing shop floor. This view may be supported by the number of organisations attempting Lean implementations beyond manufacturing, such as health care (Vago et al., 2016, Aij et al., 2015, Hayes et al., 2014, Burgess and Radnor, 2013) or government services (Carter et al., 2011, Pedersen and Huniche, 2011, Kumar and Bauer, 2010, Emiliani, 2004). The following table summarises a number of labels employed in the Lean literature.

Table 2 - Summary of Lean Labels

Summary of Lean Labels	
1. Lean Manufacturing (LM)	(Putnik and Putnik, 2012, Emiliani, 2006)
2. Lean Production (LP)	(Nicholas, 2016, Jasti and Kodali, 2015)
3. Lean Thinking (LT)	(Wiengarten et al., 2015, Kosuge, 2014)
4. Toyota Production System (TPS)	(Womack and Jones, 2003, Ohno, 1988)
5. Continuous Improvement (CI)	(Aij et al., 2015, Bhuiyan and Baghel, 2005)
6. Total Quality Management (TQM)	(Stone, 2012, Andersson et al., 2006)
7. Just-In-Time (JIT)	(Rawabdeh, 2005, Skorstad, 1994)
8. Theory of Constraints (TOC)	(Myrelid and Olhager, 2015, Arlbjørn and Freytag, 2013)
9. Lean Six Sigma (LSS)	(Manville et al., 2012, Brown et al., 2006)
10. Lean Management (LM)	(White et al., 2013, Gowen et al., 2012)

To be a student of Lean, the researcher needs to be aware of the numerous labels ascribed to Lean in order to explore and critique the major arguments and discussions existing in the literature. The use of multiple terms is not meant to confuse the reader, but to maintain transparency and traceability when referencing the material of other researchers. It is not the intention here to further promote the current confusion in the Lean literature, but rather to make the reader aware that multiple label referencing in this study reflects the history and evolution of the academic positioning of the subject matter. To add complexity to the body of Lean literature already divided as to what to use as an appropriate label for Lean, there seems to be a conspicuous 'absence of a consensual Lean definition that may present difficulties for academics as well as practitioners' (Angelis, 2011:2). Lean is described in the literature as ill-defined (Stone, 2012). Bhamu and Sangwan (2014) documented twelve scholarly definitions of Lean (Bhamu and Sangwan, 2014). These definitions are summarised in the following table.

Table 3 - Bhamu and Sangwan's (2014) Summary of Lean Definitions

Bhamu and Sangwan's (2014) Summary of Lean Definitions	
Definitions in the Literature	Key Authors
A way	(Storch and Lim, 1999)
A process	(Womack et al., 1990)
A set of principles	(Womack et al., 1990)
A set of tools and techniques	(Bicheno, 2004)
An approach	(Taj and Morosan, 2011)
A concept	(Naylor et al., 1999)
A philosophy	(Liker and Wu, 2000)
A practice	(Simpson and Power, 2005)
A system	(Shah and Ward, 2003)
A program	(Hallgren and Olhager, 2009)
A manufacturing paradigm	(Rothstein, 2004)
A model	(Alves et al., 2012)

While some researchers have provided definitions specific to manufacturing processes, others have employed a more general definition that could be applied to a variety of industries (Worley and Doolen, 2006). In a manufacturing environment, a Lean definition would include all of the activities performed to make a product that is of value to the customer, and is done correctly the first time (Sayer and Williams, 2007, Graban, 2009, Womack and Jones, 2003). In this context, every process that produces what the customer wants also contains wasteful activities that should be reduced. Waste could be understood as everything the customer is not willing to pay for (Bhuiyan and Baghel, 2005). In the manufacturing world, these wastes have been identified as overproduction, over processing, waiting, transportation, inventories, motion and defects (Rawabdeh, 2005). Hopp and Spearman (2004) provide a similar definition that views Lean as a production system that minimises buffering costs associated with excess lead times, inventories, or capacity (Hopp and Spearman, 2004). Lean is considered a never-ending journey for perfection where managers and employees continuously try to come up with new and better ways for eliminating waste and increasing customer value (Suarez Barraza et al., 2009, Womack and Jones, 2003).

Much current Lean research uses this basic agreed upon definition developed in the manufacturing environment and applies it as well to non-manufacturing applications in other types of organisations such as government services, banking, education, health care and not-for-profit. This basic definition of Lean is where agreement ends amongst researchers. To facilitate an understanding of the diversity of Lean definitions, Bhamu and Sangwan's (2014) twelve definitions have been re-grouped into four identifiable schools of thought regarding what Lean is: a set of tools, a system, a philosophy and a concept in order to provide a critical discussion of the merits of each philosophical approach with respect to Lean and Respect for People. These four approaches were derived in part from an argument by Groban (2009) that Lean is 'a toolset, a management system, and a philosophy' (Groban, 2009:1).

2.5 Major Ontological and Epistemological Positions in the Lean Literature

In order to understand the major academic philosophical approaches in the Lean literature, Bhamu and Sangwan's (2014) twelve definitions were reorganised into four

categories as a method to frame and critique major definitions, arguments and discussions in the Lean literature. The following table demonstrates the definitions from Table 3 that have been re-grouped by philosophical positioning.

Table 4 - Bhamu and Sangwan's (2014) Lean Definitions Re-Grouped by Approach

Bhamu and Sangwan's (2014) Lean Definitions Re-Grouped	
Philosophical Approach	Definitions in the Literature
Lean as tools or practices	A set of tools and techniques A practice A program
Lean as a system	A system A process An approach A manufacturing paradigm
Lean as a philosophy or principles	A philosophy A set of principles A way
Lean as a concept or model	A concept A model

In the sub-sections below a full discussion of these major philosophical approaches in the Lean literature ensues. Each approach is compared to Taiichi Ohno's (1988) requirement that both continuous improvement methodologies and Respect for People be present within an organisation for enhanced Lean outcomes.

2.5.1 Lean as Individual Tools or as Sets of Practices

A great deal of Lean research focuses on the implementation of Lean tools, or techniques, methods or practices such as those listed by Suarez-Barraza et al., (2009): Kanban, Total Productive Maintenance, 5S, visual control, single minute exchange of dies (SMED), supplier development, streamlined layouts, one-piece flow, cell design, process and value stream mapping (Suarez Barraza et al., 2009). The benefits associated

with implementing any of these individual tools, techniques and practices have been tested empirically in relation to operational performance (Furlan et al., 2011, Shah and Ward, 2007, Bonavia and Marin, 2006, Shah and Ward, 2003). Shah and Ward (2007) produced further research to conceptualise Lean as bundles of practices, that is, implementing Lean tools in groups for improved Lean implementation outcomes. Working through 22 identified Lean practices like those listed above by Suarez-Barraza (2009), Shah and Ward classified these Lean tools into four practice bundles: Total Quality Management (TQM), pull or JIT production, Total Productive Maintenance (TPM) and Human Resource Management. The results of combining tools into bundles suggested better outcomes for organisational performance than implementing one tool at a time. Similar categorisation and results were found in other research (Cua et al., 2001, Samson and Terziovski, 1999). Further, Soriano-Meier and Forrester (2002) introduced the concept of the Degree of Leanness (DOL) as a measurement tool to track the progress of manufacturers who adopted Lean techniques (Soriano-Meier and Forrester, 2002).

This approach of Lean as tools, techniques or practices reveals a quantitative, empirical acceptance of implementing Lean methodologies that demonstrate improvements in operational efficiencies. Researchers in this group argue that operational successes such as substantially improving plant operating performance (Shah and Ward, 2003), significantly reducing lead time (Ward and Zhou, 2006), or improving quality and reducing costs (Kollberg et al., 2007) can be empirically proven. For these writers, the failure of organisations to adopt Lean methodologies is attributed to the confusion about what and how to adopt tools in a specific environment (Tiwari et al., 2007), or a lack of performance measurements for Lean (Behrouzi and Wong, 2011), and not necessarily the absence of cultural issues such as Ohno's (1988) notion of Respect for People.

Ergo, while this approach recognises the positive impact of operational improvements, it encapsulates only one half of Ohno's (1988) concept of continuous improvement and Respect for People as a requirement for successful Lean implementation. Researchers who have subscribed to the tools, techniques and practice definition provide valuable insight into one part of Ohno's (1988) formula, and offer no insight to the role organisational culture, or more specifically, the role that Respect for People might play

in the implementation of Lean methodologies. From the review and analysis of approximately five hundred Lean peer-reviewed journals collected for the literature review, the tools, techniques and practices approach appears to represent the bulk of the research conducted to-date in the Lean literature.

2.5.2 Lean as a Holistic System

In this approach researchers consider Lean to be an adaptable, holistic system (Langstrand and Drotz, 2016, Albliwi et al., 2015, Hozak and Olsen, 2015, Samuel et al., 2015, Ringen et al., 2014) that is dependent on the environment (Doolen and Hacker, 2005). Using this definition, companies should not focus on the implementation of Lean practices or methodologies alone, but rather, focus on implementing a holistic Lean system. When implementing Lean there should be a culture of continuous improvement and employee engagement (Lam et al., 2015, Huehn-Brown and Murray, 2010, Al Smadi, 2009, Liker and Hoseus, 2008, Marin-Garcia et al., 2008, Choi and Liker, 1995). For example, Lam et al., (2015) argue that successful managers tend to be those who focus on not only structure and task but also human behaviour (Lam et al., 2015). Van Dun et al., (2017) contend that lean efforts are likely to be more effective if manager values and team member behaviours are considered (van Dun et al., 2017). Dombrowski and Mielke (2014) argue that most Lean initiatives focus only on processes and ignore the philosophical, human and learning aspects of Lean (Dombrowski and Mielke, 2014).

A subset of authors in this group describe a systems approach to Lean as one that includes both social and technical elements (Bortolotti et al., 2015, Mostafa et al., 2013, Marksberry et al., 2011, Shah and Ward, 2007, Brown et al., 2000, MacDuffie, 1995). For example, Shah and Ward (2007) define Lean production as 'an integrated socio-technical system whose main objective is to eliminate waste by concurrently reducing or minimising supplier, customer, and internal variability' (Shah and Ward, 2007:791). Interestingly, this was a change in their research as noted in the previous section on tools or sets of practices. It appears that Shah and Ward (2007) may have recognised that Lean implementation should include more than just a set of tools, techniques and practices as described in their earlier research.

The supporters of the Socio-Technical System (STS) stress the importance of the humanisation of working life (Dankbaar, 1997). The concept originated from studies of British coal mining methods by the Tavistock Institute (Trist & Bamforth, 1951, as cited by Losonci et al., 2011). Early STS studies observed that employee behavior and work design were so intertwined that technical processes could not be understood without also understanding social processes (Emery, 1959, Trist & Bamforth, 1951, as cited by Kull et al., 2013). The following table summarises the following key principles key of STS as identified by Dankbaar (Dankbaar, 1997).

Table 5 - Summary of the Key Socio-Technical System Principles

Summary of the Key Socio-Technical System Principles
1. Economies flowing from the integration of tasks and self-regulation of work-groups.
2. Unity of preparation, execution and control.
3. Autonomous groups as the basic unit of the organisation.
4. Lengthening of individual work cycles, job enlargement and job enrichment.
5. Organisation around parallel product flows.
6. Flexible automation.

Proponents of the holistic approach argue that technical dimensions, without social context, will not produce the desired outcomes for change (Gupta et al., 2016, Sim and Chiang, 2012). Poksinska (2010), as cited in Ljunblom (2014), critiques the tools, techniques and practices approach by suggesting it relies too heavily on the analysis of methodologies and tools rather than focusing on other factors such as ethics and the human perspective (Ljungblom, 2014). Ineffective Lean implementations are attributed

to organisational culture issues (Bhasin, 2013, Atkinson, 2010, Choi and Liker, 1995) human resources and the role of people and cultural change (Martínez-Jurado et al., 2013).

Workforce focused initiatives such as process improvements are a vital Lean element (Bhasin and Burcher, 2006, de Treville and Antonakis, 2006, Cua et al., 2001). Similarly, Coetzee (2016), Schonberger (2007) and Fullerton and McWatters (2001) claim that employee involvement is essential for the application of Lean, JIT, and TQM (Coetzee et al., 2016, Schonberger, 2007, Fullerton and McWatters, 2001). The employee is expected to continuously improve (Woehl, 2011).

In summary, from the holistic Lean perspective, organisational culture is viewed as something that can enhance or impede successful Lean implementation (Sim and Chiang, 2012). While it cannot be assumed that Ohno's (1988) notion of Respect for People might contain all of the necessary cultural elements required for successful Lean implementation, primarily because Ohno (1988) himself did not describe it in any great detail, the Lean as a system approach appears to be more reflective of Ohno's (1988) formula for enhanced Lean success by combining both the tools, techniques and sets of practices activities of continuous improvement with the consideration of the role of the human participant.

2.5.3 Lean as a Philosophy or Set of Principles

Bhasin and Burcher (2006) and Womack and Jones (2003) argue that Lean primarily has had a philosophical and practical orientation. Womack and Jones (2003) describe Lean philosophy as a set of five principles. These principles are recognised as identifying customer value, mapping the value streams, creating flow, using pull, and striving for perfection. Each are briefly described as follows. The first step in the Lean journey is to identify customer value by learning to understand the customer's needs, wants, and expectations. Without such understanding, it becomes difficult to separate value from waste. The second Lean principle of mapping value streams is about analysing the value streams used within the organisation to produce what the customer wants and expects. This is done in order to identify waste and improvement opportunities. As an example,

a value stream in a local municipality would be all the activities and processes associated with administrating an application for a public service. In a hospital, a value stream would be the treatment of a group of patients with a set of common characteristics. In a manufacturing environment, it would be all the activities performed to make a product (Womack and Jones 2003).

The third principle of Lean, creating flow, enables the organisation to deliver more customer value for resources. Ideally, flow means that there are no stops between the time the organisation receives an order and the time the customer receives the product or service (Womack and Jones 2003). The forth principle, using a pull system, allocates resources (humans, materials, finance) to follow, as closely as possible, customer demand. Pull makes it possible for the organisation to supply a product or service only when a customer needs it (Womack and Jones 2003). The fifth and last principle, striving for perfection, indicates that Lean is based on the idea of continuous improvement. Continuous improvement can be defined as a culture of sustained improvement targeting the elimination of waste in all systems and processes of an organisation (Womack and Jones, 2003). A Lean culture makes sure that managers and employees never accept status quo but are continuously look for new and better processes (Womack and Jones 2003).

Principles one and five make use of people-oriented language such as customers, employees and managers that suggests people could play a role in Lean implementation outcomes, but there is no direct reference to Ohno's (1988) concept of Respect for People. The philosophical nature of this approach provides only indirect support for either of Ohno's (1988) two requirements of the elimination of waste and Respect for People for enhancing Lean implementation outcomes.

2.5.4 Lean as a Concept or Model

A small group of researchers have defined Lean as a concept or model (Hozak and Olsen, 2015, Mirdad and Eseonu, 2015, Smith, 2015, Zimmermann and Bollbach, 2015, Jadhav et al., 2014). As such these concepts or models of Lean are then compared to other manufacturing models such as agile manufacturing (Andersson et al., 2014, Chen et al.,

2013, Cua et al., 2001, Naylor et al., 1999) or chaordic systems thinking (Alves et al., 2012, Flumerfelt et al., 2012, Putnik, 2012, Putnik and Putnik, 2012). For example, Alves (2012) presents his view that the concept of Lean production has been succeeded by the concept of agile manufacturing, which in turn has been succeeded by the concept of the learning organisation, which in turn has been succeeded by the concept of chaordic systems thinking (Alves et al., 2012). For these researchers, Lean is not necessarily about the external tools and techniques or internal perceived reality of the social actor in his environment. Instead, the primary focus is to conceptualise the workings of Lean and contrast and compare the benefits of these concepts or models to other existing systems theories. While useful in the promotion of theory, this research does little to emphasise either component of Ohno's (1988) definition of Lean, that of eliminating wasteful activities and having a culture of Respect for People.

2.6 Lean Methodologies

The divergent views on a labelling convention for Lean and defining Lean extend also to what constitutes appropriate Lean methods or techniques, or to what might be considered an acceptable implementation methodology. The Lean literature reveals that there are many Lean tools that could be adopted by organisations to improve their performance (Alaskari et al., 2016, Belekoukias et al., 2014, Krishna and Sharma, 2014, Trimble et al., 2013, Parry and Turner, 2006). Estimates of Lean methodologies range from twenty-two (Shah and Ward, 2003) to one hundred (Pavnaskar et al., 2003). Of these various tools, however, some seem to be referenced in the literature more often than others. For example, Melton (2005) indicate that Kanban, 5S, Poka-yoke (mistake proofing), Single-Minute Exchange of Dies (SMED, also known as setup reduction) and visual control are key Lean methodologies (Melton, 2005). Bhuiyan et al. (2006) recommend a similar key list of techniques consisting of 5S, mistake proofing and Kanban (Bhuiyan et al., 2006).

With respect to an acceptable implementation methodology, Shah and Ward (2003) demonstrate empirically that implementing techniques in bundles is more effective than implementing any of the twenty-two tools individually (Shah and Ward, 2003), although there is no discussion of an implementation process itself. On the other hand, Pavnaskar

et al., (2003) provide a classification scheme of one hundred tools and metrics that could be used to eliminate wasteful activities identified in a manufacturing environment, but do not stipulate any particular order of implementation for the tools, or any particular bundling of tools for implementation purposes. Instead, Pavnaskar et al., (2003) link types of manufacturing wastes to appropriate Lean tools and leave it to the Lean practitioner to determine the selection of an order or tools for implementation. In summary, the varying number of identifiable Lean methodologies, and multiple approaches to implementing the various combination of Lean methodologies suggests that no one standard way of implementing Lean has been agreed upon in the literature, thus adding to the complexity of Lean and how best to benefit from the implementation of Lean methodologies.

2.7 Lean Perspectives: Organisational Benefits versus Employee Benefits

It would appear from an operational perspective that a number of researchers have drawn many positive conclusions from their analysis of Lean regardless of their preferred definition of Lean (Randhawa and Ahuja, 2017, Mazzocato et al., 2014, Netland and Sanchez, 2014, Chavez et al., 2013, Losonci et al., 2011, Taj and Morosan, 2011, Parry et al., 2010, Marin-Garcia et al., 2008). Improved operational outcomes such as reductions in customer lead time, scrap, rework, and improvements in on-time delivery and quality can be found in the Lean literature (Chavez et al., 2013, Dora et al., 2013, Chowdary and George, 2012, Kumar and Bauer, 2010, Joosten et al., 2009, Lee-Mortimer, 2006). Some Lean researchers are even 'evangelical' in their assertions (Carter et al., 2011:116) that Lean has the potential to radically improve organisational effectiveness. They propose that 'recent decades have proven with certainty that the best path to pursue is Toyota's Lean strategy' (Losonci et al., 2011:30). Such assertions in practice are commonly phrased as 'the anticipated but unexamined positive rhetoric of the practitioner-advocate' (Stewart et al., 2010:609). This fervent view of Lean may derive support from the many studies that have focused on data generated from a primarily positivist approach of investigating statistically significant relationships between Lean tools and techniques and improved operational metrics. Significantly, however, some research has revealed a pronounced technical bias in the positivist

approach. This is prevalent in research conducted by Lean researchers who have studied the social, or human, impact of Lean methodologies. These researchers contend that while systematic waste elimination may improve organisational performance, it comes at a cost to employees as Lean methods can be harmful to (Håkansson et al., 2017, Carter et al., 2011, Bruno and Jordan, 2002, Adler et al., 1997, Rinehart et al., 1997, Babson, 1993). For example, in their paper 'Lean and mean in the civil service: the case of processing in HMRC' Carter et al., (2011) reported a marked negative impact on employee work life and employee relationships with external customers as the result of implementing Lean methodologies (Carter et al., 2011).

In other studies, Lean methodologies increased work load and intensity of work, and this increased worker effort and reduced control over their time (Camuffo et al., 2017, Skorstad, 1994). Standard operating procedures and foolproof processes may reduce role ambiguity but de-skill employee tasks instead of emphasising employee multi-skills and reduce worker discretion (Carter et al., 2011). Worker resistance will more likely appear than creative involvement (Skorstad, 1994). Similar disruptive outcomes were predicted by Durand and Hatzfeld (2003) (as cited by Angelis et al., 2011) since Lean production changed customary work methods and the associated social relationships (Angelis et al., 2011). Parker and Slaughter (1988) (as cited by Angelis et al., 2011) argued that the emphasis on waste elimination could include reducing excess production workers (Angelis et al., 2011). If the workers were made redundant, the negative effect on worker commitment would be obvious. Womack et al., (1990) agree that management's support of the work force and ensured job security needs to be emphasised if Lean implementation is to be successful (Womack et al., 1990).

Hasle et al., (2012) reviewed the scientific literature on the effects of Lean on the working environment and employee health and well-being. They found that there was strong evidence in the literature for the negative impact of Lean on both the working environment, employee health and well-being in cases of manual work with low complexity in the manufacturing industry (Hasle et al., 2012). However, they also found positive effects in the literature, leading to their argument of the importance of moving from a simple cause-and-effect model to a more comprehensive model that can understand Lean as an open and ambiguous concept having both positive and negative

effects depending on the lean practices employed on the shop (Hasle et al., 2012). Similar findings of both positive and negative Lean effects on employees have been found in more recent research (Camuffo et al., 2017, Håkansson et al., 2017).

For the remainder of this study the term Lean has been used to describe Toyota's manufacturing system. The exception to this rule is where a direct reference has been made to other studies. In those instances, the language as found in the referenced material was used. My working definition of Lean adopted for this study was:

> *An integrated socio-technical system developed by Toyota Motor Company. The two main constructs used to achieve the socio-technical system are Respect for People (socio) and continuous improvement (tools and techniques) as described by Taiichi Ohno, a founder of the Toyota Production System.*

This definition of Lean aimed to create a holistic approach that considered the methods and tools, the role of organisational culture and the perspective of the employee in a transformation to a Lean system. It was also congruent to the philosophy of Taiichi Ohno, a founder of the Toyota Production System. This definition allowed for a more general interpretation of Lean that could be applied to a variety of organisations attempting to implement Lean.

2.8 The Impact of Organisational Culture on Lean

Although organisational change is considered unavoidable (Drucker, 2001), there are estimates that up to seventy per cent of all major corporate changes fail (Washington and Hacker, 2005). The Lean literature offers evidence of this general failure rate with respect to implementing Lean methodologies. Bhasin (2012) suggests in his paper '*Prominent Obstacles to Lean*' that fifty per cent of survey respondents listed cultural issues as a barrier to Lean implementation. Both Bhasin (2012) and Atkinson (2010) argue that underlying every Lean failure is the fundamental issue of corporate culture and change management (Bhasin, 2012, Atkinson, 2010). Badurdeen and Gregory (2012) describe the challenge in implementing Lean for some firms as a lack of Respect for People within the organisation (Badurdeen and Gregory, 2012). Put another way,

Houborg (2010) argues that continuous improvement can be found only through the power of Respect for People (Houborg, 2010).

Other research reveals that there could be various barriers or reasons for failure beyond organisational culture. Determining what exactly was wasteful or necessary within the process as well as pushing some Lean practices too far results in negative effects (Marley and Ward, 2013). Improvement efforts that only produce local optimisation is known as a failure of expectations (Kornfeld and Kara, 2011). Organisations may neglect to take a holistic approach to improvement (Water and De Vries, 2006, as cited by Kornfeld and Kara, 2011). Cooney (2002) argues that Lean ignores the influence of social and political institutions (Cooney, 2002). Leadership which initiates Lean transformation might not be strong enough to continue the transformation and ensure its sustainability (Atkinson and Nicholls, 2013, Raghavan et al., 2013, Mann, 2009, Mann, 2005). Finally, work needs to been done on benchmarking to identify gaps in implementing Lean methodologies (Gurumurthy and Kodali, 2009).

However, it can be argued that organisational culture does play an important role in the implementation of Lean (Coetzee et al., 2016, Snyder et al., 2016, Bortolotti et al., 2015, Hilton and Sohal, 2012, Wong, 2007). Corporate culture has a strong influence on plant performance (Krafcik, 1988). Anvari et al., (2010) (as cited by Karim and Arif-Uz-Zaman, 2013) propose eleven critical success factors for effective implementation of Lean strategies, of which organisational culture is one (Karim and Arif-Uz-Zaman, 2013). Badurdeen et al., (2011) speak more directly to the role of organisational culture by postulating that while the learning of tools and techniques of Lean is an obvious step, it took Toyota Motor Company more than sixty years to implement the more visible tools and cultivate the less explicit norms and behaviours which enabled sustained success (Badurdeen et al., 2011). In very specific language, Sevier (1992) emphasises the role organisational culture plays by prescribing the creation of an atmosphere which facilitates the introduction of Lean before beginning the actual implementation process (Sevier, 1992). This sequence of tending to organisational culture first and implementing methodologies second is a key to encouraging employee engagement and to overcoming employee resistance to change (Sevier, 1992). Further, she suggests that the employee's understanding of the JIT philosophy, goals and implementation process is required to making the transition to Lean. Finally, Sevier (1992) concludes that

offering employees an opportunity to voice their concerns and to share opinions, discuss alternatives, improvements and problems facilitates a sense of ownership of Lean methodologies (Sevier, 1992).

On the whole, however, the impact of organisational culture on Lean methodologies has not been as well developed in the Lean literature as other themes such as operational performance, and the small number papers found in the literature search examining cultural factors used a quantitative approach, particularly at the small and medium enterprise level (Achanga et al., 2006). However, missing within the literature review was an understanding about what it means to lead a culture of transformation and the role of culture ins shaping organisational practice (Snyder et al., 2016). More specifically, few articles examined organisational culture and the adoption of Lean methodologies from the employee perspective (Kaltenbrunner et al., 2017, Losonci et al., 2017). This seems puzzling as the discussion above points to evidence that issues revolving around organisational culture and its impact on employees could be a contributor to failed Lean implementation initiatives. As evidence of this link between Lean and organisational culture, researchers Bititci et al., (2006) have demonstrated a bi-directional relationship between performance measurement and organisational culture (Snyder et al., 2016). Losonci et al., (2017) found that a critical step in supporting the adoption of Lean is the proper understanding of an organisation's own organisational culture (Losonci et al., 2017).

Organisational culture has many definitions which range from a simple 'what people think about things around here and how they act' (Harber et al., 1993:2) to a complex combination of elements of beliefs, values, assumptions, attitudes and behavioural norms, each of which could be examined at various levels of analysis such as industry, group or individual (Harber et al., 1993). For example, one view of organisational culture is that it exists somewhere between the heads of a group of people where symbols and meanings are publicly expressed in such constructs as work group interactions, board meetings, and material objects (Alvesson, 2010). Another view of organisational culture is that it is a set of values and norms which can be treated as measurable, which is more managerially relevant, and fairly easy to link to actions and effects and management control (Alvesson, 2010). With yet another perspective, Harrison (1987) (as cited by Bititci et al., 2006) suggests four types of organisational culture based on Hofstede's

work on national cultures. They are: role culture, power culture, achievement culture and support culture (Bititci et al., 2006). The creation of a supportive organisational culture is argued to be an essential platform for the implementation of Lean manufacturing (Achanga et al., 2006). According to Harrison (1987) (as cited by Bititci et al., 2006), in the support culture, work is performed out of enjoyment of the activity for its own sake, and for the concern and respect of the needs and values of other persons involved (Bititci et al., 2006).

Schein (1992) offers yet another view of organisational culture. He refers to organisational culture as the underlying glue that holds organisations together (Schein, 1992). Schein (1992) provides an organisational culture conceptual model consisting of three layers, a top layer consisting of artifacts (visible products of a group), a second lower layer described as espoused values (what people will say in the group), and a third or bottom level that depicts basic underlying assumptions (what people will do in the group). At the surface level, an artifact such as the physical environment, language, technology or product is easy to observe and difficult to decipher. Making changes at this level of culture may not result in lasting changes to the organisation. It is only at the deepest level of basic assumptions that resistance is more likely to occur. If a basic assumption is strongly held in a group, members will find behaviour based on any other premise inconceivable (Schein, 1992). According to Schein (1992), basic assumptions are extremely difficult to change.

In summary, most definitions of organisational culture converge on the notion of culture as the taken-for-granted, underlying assumptions, expectations, and definitions present in an organisation (Schein, 1992). Organisational culture guides and shapes behaviours and attitudes of all employees and can be viewed as the personality of an organisation (Wong, 2007). A strategy, regardless of its strengths, will not be accepted if it is outside the bounds of an organisation's culture and employees are not engaged (Hines et al., 2008, Dalal, 2010). My working definition of organisational culture adopted for this study was:

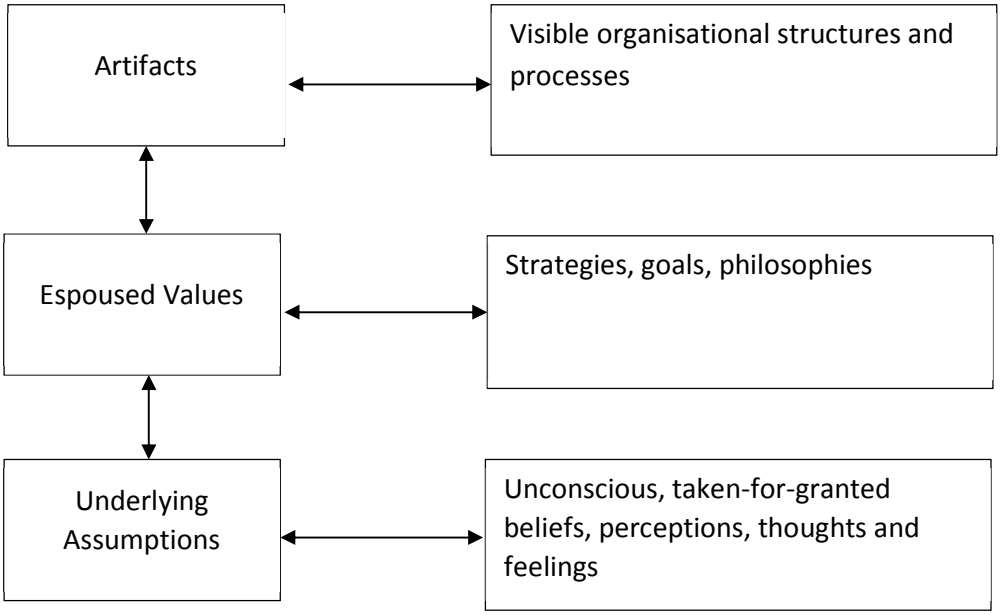
> *A shared set of values, norms and beliefs that can be identified and expressed through symbols and language. Organisational culture can be complex and described as layers within an organisation. Each of these layers needs to be identified and expressed but are not necessarily measurable.*

While the Lean literature can be viewed from many perspectives, the organisational culture perspective has produced some evidence indicating the negative impact Lean can have on employees (Carter et al., 2011, Fairris, 2002, Rinehart et al., 1997, Babson, 1993). This suggests that the employee perspective may need to be carefully considered when implementing Lean methodologies within an organisation. One way to examine what a 'deep culture' (Turesky and Connell, 2010:114) view of Lean and Respect for People might look like from an employee perspective was to employ Schein's (1992) multi-level model of organisational culture as an initial framework for exploration. A discussion of the potential application of this model is provided in the next session.

2.9 Schein's (1992) Multi-Level Organisational Culture Model

Schein (1992) argues that organisational culture should be analysed at three levels, with level referring to the degree to which a cultural phenomenon is visible to the observer (Schein, 1992). These levels range from a level of what the observer can see and touch, referred to by Schein (1992) as artifacts, to a deeper level of what can be heard and discussed, referred to by Schein (1992) as espoused values, to yet an even deeper level of what can be considered the essence of culture, referred to by Schein (1992) as the basic underlying assumptions. This deepest level of organisational culture may often be the most difficult for employees to articulate (Schein, 1992). The phrase 'It's just the way we do things around here' has often been given as an answer to cultural probes by this researcher as to why the case company's organisational culture is the way it is. Employing Schein's (1992) model introduces an acceptable academic perspective for the examination of organisational culture. Schein's (1992) multi-level organisational cultural model, particularly the levels of espoused values and underlying assumptions provided a theoretical lens through which the meaning of Lean and Respect for People could be examined as it existed currently for employees of the single case company. The following table summarises Schein's (1992) concept of multiple levels of culture.

Figure 1 - Schein's (1992) Multi-Level Organisational Culture Model



Lean is often described as a visual system. Lean practitioners exhort such phrases as 'make problems more visible' (Marley and Ward, 2013:44). Organisations implement Lean methodologies such as 5S or cellular manufacturing, and these methodologies create visible artifacts identifiable to the observer. Physical surroundings begin to change. It may look like Lean is taking hold within an organisation. But, according to Schein's (1992) model, if what people say (espoused values) and believe (underlying assumptions) about Lean and Respect for People are not in congruence with the visible artifacts (new structures such as 5S created by Lean methodologies), then anxiety and resistance may result as the deeper levels of culture are challenged by the newly created Lean structures.

Conversely, it may be held that if values and assumptions identified in an organisation's culture can be demonstrated to be found also in the Lean methodologies, then perhaps employees may recognise a congruence of values and beliefs in the Lean methods. The implementation and sustainment of Lean in this scenario may create much less anxiety and resistance. If the phenomenon of Respect for People could become better understood and articulated by employees, then management could choose to act in congruence with an employee developed notion of Respect for People. This may then

lead to a better integration of management's espoused values of operational benefits through Respect for People. According to Schein (1992), if the lower levels of organisational culture are in congruence, then the visible parts of an organisation's culture, its artifacts, it's symbols, its structures (such as Lean methodologies) would be in harmony at all levels of Schein's (1992) model. In other words, Lean would not be something that is done to the employees, it would be instead something that is just done around here.

2.10 Respect for People

Ellingsen and Johannesson (2007) argue that respect matters in the workplace and that employers could pay their workers with a combination of monetary rewards and respect (Ellingsen and Johannesson, 2007). Most of us want to be respected by others (van Quaquebeke and Eckloff, 2010). This want holds true not only in our private life, but also at work (van Quaquebeke et al., 2008). Respect, be it between leaders and their subordinates or among colleagues, impact variables generally regarded as beneficial for an organisation and its performance (van Quaquebeke et al., 2008). One view of respect is 'a person's attitude towards other people' (van Quaquebeke and Eckloff, 2010:344). Another view of respect could be described as something owed or earned (van Quaquebeke and Eckloff, 2010).

The Lean literature contains some references to Respect for People or Respect for Humanity as the phenomenon was called in the early Lean literature (Ohno, 1988, Sugimori et al., 1977). Below is an outline of the method used to critically examine the lean literature for those studies specifically related to Respect for People and Respect for Humanity. A search of the author's Endnote database of 477 Lean articles (as of May 12, 2016) revealed a smaller subset of articles that referenced the phrase Respect for People or Respect for Humanity either in the article title or in the contents of the article. This subset of articles was identified using search methodologies in the researcher's Endnote database. This search revealed fifty references to either Respect for People, Respect for Humanity or just the word humanity. A list identifying the writers in chronological order can be found as Appendix B.

The phenomenon of Respect for People is a concept that runs through the literature from 1977 to the present. This relatively small group of researchers have acknowledged that Lean includes the notion of Respect for People and recognises the human aspect of the organisation (Sharma et al., 2016, Drotz and Poksinska, 2014, Emiliani and Emiliani, 2013, Baird et al., 2011, Marksberry, 2011, Houborg, 2010, Liker, 2004, Ohno, 1988, Sugimori et al., 1977). Sugimori et al., (1977) were the first to discuss the concept of Respect for People and its link to Lean. In their paper 'Toyota production system and Kanban system: materialisation of just-in-time and respect-for-human system' (Sugimori et al., 1977), they identified Taiichi Ohno (1988) as the developer of the Toyota Production System and described the Toyota Production System as consisting of two parts, namely just-in-time production and respect-for-human system where 'the workers are allowed to display in full their capabilities through active participation in running and improving their own workshops' (Sugimori et al., 1977:553). They provided cursory details of the meaning of respect-for-human system. These included the elimination of waste movements by workers, a consideration of workers' safety, and a self-display of workers' capabilities by entrusting them with greater responsibility and authority (Sugimori et al., 1977).

As noted in the introduction of the study, Taiichi Ohno himself described Lean as the equally important concepts of the elimination of waste and Respect for Humanity. Strangely though, Ohno (1988) did not go on to describe what he meant by Respect for Humanity in his book 'Toyota Production System: Beyond Large-Scale Production' (Ohno, 1988). Later, other researchers took up the cause of Respect for People that continues to the present. Emiliani (2004) argued that continuous improvement was not effective without the Respect for People principle, stating that the presence of disrespect of people in a work environment created waste (Emiliani, 2004). In another paper, Emiliani (2006) suggested that the Respect for People principle had long been unrecognised, ignored, or misunderstood by most senior managers outside Toyota and its affiliated suppliers, even though Ohno (1988) and other Toyota personnel referred to it directly or indirectly in their writings (Emiliani, 2006, Ohno, 1988). Emiliani and Stec (2004) together premised that the correct practice of Toyota's management system would require, at a minimum, acknowledgement and practice by management of the principles of continuous improvement and Respect for People. People were valuable

resources with vast amounts of creative potential and not disposable assets (Emiliani and Stec, 2004).

Researcher Reflective Journal Entry 1 – January 13, 2015

> I circled back to my aim and objectives, particularly the objective to develop a cultural framework to guide the implementation of Lean methodologies at the company. I must admit I am becoming somewhat discouraged in my attempts to find cultural factors that are significant in the Lean literature. I have found very little research there for me to build upon or extend at this point in my academic journey. A holistic approach that considers both technical and social factors is an alternative suggested in the literature but I haven't found much that deep dives into those social or cultural factors. The papers that I could find from an employee perspective addressed negative impacts of lean implementation on workers. Various Lean papers touch on Respect for People or engaging employees as fundamental factors but there is not much substance. Perhaps I'm fishing in the wrong pond for these types of cultural factors. I'm also curious to know what to do with Respect for People. M.L. Emiliani, whose papers I enjoy reading, argues strongly that Lean methodologies fail precisely because the practice of eliminating waste is not combined with Respect for People. Taiichi Ohno, regarded as one of the founders of the Lean system also argues that Respect for Humanity is required for successful Lean outcomes. So, what does Respect for People mean at my company, and how would the employees view, articulate and give voice to such a concept° Is a cultural framework a helpful structure in giving voice to the employee to articulate this concept of Respect for People°

The excerpt above from my reflective diary entry below reflects how this line of thinking resonated with me. Lean was too often thought of as a set of tools that could be implemented anywhere, any time (Worley and Doolen, 2006). In the view of Bhasin and Burcher (2006), it was the second principle, Respect for People, that enabled the first principle of eliminating waste. The challenge for implementing Lean was to move beyond the tools and into the deeper learning of improvement (Mazur et al., 2012).

Turesky and Connell (2010) called this a deep culture change where workers came to internalise the new ways of working regardless of who was in charge (Turesky and Connell, 2010). Marksberry (2011) suggests that the two notions of continuous improvement and Respect for People are part of the five pillars of the Toyota Production System (Marksberry, 2012, Marksberry, 2011). The Respect for People pillar includes the values of teamwork, respect for others and trust. While useful perhaps from an organisational perspective, this small sub-set of Lean literature was not particularly helpful in understanding what Respect for People meant from the employee perspective.

2.11 Chapter Summary

The Lean literature is considerable, complex and ever evolving with new concepts and ideas. There is a basic consensus about what one should do to be Lean and that is to eliminate wasteful activities that add no value to the customer (Womack and Jones, 2003, Hird and Noakes, 2014, Dombrowski and Mielke, 2014, Chowdary and George, 2012, Murugaiah et al., 2010, Emiliani, 2004). A Lean organisation should work tirelessly to identify and eliminate such types of waste (Ohno, 1988).

Beyond this very basic definition however, researchers past and present do not appear to agree upon a more comprehensive definition. General approaches can be categorised, but each has its strengths and weaknesses as has been illustrated in this chapter: Lean as a set of tools, Lean as a holistic system, Lean as a philosophy, and Lean as a concept. This presents a fundamental problem for practitioners. Which of these approaches will most likely help to sustain the implementation of Lean methodologies and thereby allow their organisation to enjoy the benefits of Lean˚ It has been argued in this chapter that only one of the four major approaches in the Lean literature is in alignment with the tenets of Taiichi Ohno. That approach is a holistic one that at a minimum considers both the Lean methodologies and a cultural phenomenon of Respect for People.

The bulk of the Lean research has focused on the performance benefits to be gained by organisations through the implementation of Lean methodologies (Snyder et al., 2016, Dombrowski and Mielke, 2014). But this heavily weighted focus on the implementation

of the tools and techniques of operationalising Lean may be counter to the notion of developing a culture of Respect for People. Because of the dominant performance approach to implementing Lean, little evidence has been generated with a focus on organisational culture, or the integration of human dimensions with the tools and techniques of Lean (Snyder et al., 2016). Van Dun et al., 2017 argue that merging Operations Management with other pockets of the more softer leadership and change management literature is likely to further enhance both research knowledge and practitioner competency in the successful adoption of Lean (van Dun et al., 2017). Despite the extensive body of literature on Lean, many questions remain and require more definitive answers (Rinehart et al., 1997). From the literature review conducted, no evidence was found on what Respect for People meant to employees and whether employees viewed Respect for People as helpful to the implementation of Lean methodologies. And while the notion of Respect for People as a necessary ingredient for successful Lean implementation runs as a thread throughout the history of the Lean literature, it is faint and difficult to trace. No evidence has been provided on the impact Respect for People could have on employees tasked with implementing Lean. It would appear that Ohno's (1988) 'Respect for People' notion has been given less attention than it should receive by researchers and academics (Coetzee et al., 2016). Surprisingly, even Taiichi Ohno, a founder of the Toyota Production System did not make clear what Respect for People was or what it looked like in his organisation. Though he took great lengths to focus the operational improvements of Lean, he neglected to provide concrete examples of what Respect for People meant to employees and how it might facilitate the establishment and sustainment of Lean methodologies.

The aim of this study was to investigate and better understand the meaning of Lean and Respect for People from the employee perspective. The research objectives for the study were: to identify cultural themes of employee meaning for Lean and Respect for People, and to explore the impact that the phenomenon Respect for People could have on the acceptance of Lean methodologies by employees. The following research questions therefore flowed from the critical literature review and the objectives of this qualitative study:

Q1. *What does Lean mean to employees at the company?*

Q2. *What does Respect for People mean to employees at the company?*

Q3. *Does Respect for People help enhance the implementation of Lean methodologies at the company?*

The research questions endeavored to examine and understand the meaning of both Lean and Respect for People from the perspective of employees tasked with implementing Lean. Would employee work experiences reflect the diversity of academic Lean research˚ Did the employee perspective have something to offer to academic research and the improvement of Lean implementation outcomes˚ A discussion of the research methodology follows in order to set the stage for the process developed to answer the three research questions.

CHAPTER THREE: RESEARCH METHODOLOGY AND ANALYSIS

3.1 Chapter Introduction

It should be noted to begin with that, in places within this chapter only, the first person is used. I have chosen to write in the first person here rather than use a more conventional, impersonal form of writing since it was important for me to make clear that I was responsible for the interpretation of the data. This point of style implies an awareness that interpretation other than the ones I am putting forward might be possible and plausible.

This chapter begins with an overview of the philosophical approach and why this particular stance for the study was chosen. This is followed by a discussion of ethical issues and then the research design which describes in detail how data were collected for the study, the type of analysis used, the time frame in which the study was conducted, and the methodology employed for the pilot study and main study. Details of two methods of analysis applied to the interview and focus group data follow. The chapter ends with a critical discussion of trustworthiness and credibility.

3.2 Philosophical Approach

Saunders et al., (2012) suggest that there are two major ways of thinking about research philosophy: ontology and epistemology. Each highlights and describes important influences or understanding of the ways in which the research process can be conducted (Saunders et al., 2012).

3.2.1 Ontology

Ontology is concerned with the nature of reality (Saunders et al., 2012). Ontology provides a perspective about the way the world operates. Ontological perspectives can be described from at least two perspectives, objectivism and subjectivism. Objectivism considers reality to be external to, and independent of, the social actor (Saunders et al., 2012). Subjectivism asserts that reality is created from the perceptions and actions of

social actors. It is necessary, therefore, to gain an understanding of what is happening from the social actor perspective (Saunders et al., 2012). This study adopted an ontological perspective of subjectivism. The aim was to gain an understanding of the role of the social actor in a Lean and Respect for People context.

3.2.2 Epistemology

Epistemology concerns itself with the researcher's view regarding what constitutes acceptable knowledge. As such, Saunders et al., (2012) suggest that for the major ontological perspectives of objectivism and subjectivism there are corresponding views of what is acceptable knowledge. These are identified epistemologically as positivism and interpretivism. Positivism advocates for the stance of the natural scientist. For the positivist, acceptable knowledge is observable phenomena that provides credible data and facts. A positivist would seek out causality, law-like generalisations and the reduction of phenomena to its simplest elements (Saunders et al., 2012).

Interpretivists, on the other hand, find acceptable knowledge to be subjective meanings and social phenomena. Interpretivism advocates the necessity for the researcher to understand differences between humans as social actors. An interpretivist seeks out the details of a situation, attempting to discover a reality behind these details, and subjective meanings motivating the social actor's actions (Saunders et al., 2012). Social actors interpret their social roles and interpretivists interpret these roles of others in accordance with their own set of meanings. Having identified with the ontological position of subjectivism, acceptable knowledge for this study consisted of data collected in the form of language that described meaning and understanding of Lean and Respect for People by employees of the selected case company.

3.2.3 Axiology

Axiology is a branch of philosophy that studies judgements about value (Saunders et al., 2012). A researcher's values play a significant role with respect to the credibility of the research results. Values are employed as a means for making judgements about how

research is conducted and what is deemed important or not important. For example, I consider the examination of meaning of Lean and Respect for People to be of value to both the employee's work well being as well as the organisation's intention of implementing Lean methodologies in a more successful manner. A reflection on personal values is suggested by Saunders et al., (2012) as an opportunity to be 'honest with yourself' (Saunders et al., 2012:139), thereby increasing 'awareness of value judgements you are making in drawing conclusions in your data' (Saunders et al., 2012:139).

3.3 Research Justification

3.3.1 Qualitative Research

It is a generally accepted practice that the selection of a research methodology is based in part on the nature of the research problem or issue to be addressed (Creswell, 2009). The decision was made to conduct a qualitative study as a means to explore and understand the meaning of Lean and Respect for People from the employee perspective. Individuals create and manage meaning through symbols, languages, beliefs, visions, ideologies and myths (Pettigrew, 1979). Creswell (1998) postulates that if a concept or phenomenon needs to be understood because little research has been done on it, then it merits a qualitative approach. He further contends that qualitative research is exploratory and is useful when the researcher does not know the important variables to examine (Creswell, 2009). In his book 'Qualitative Inquiry and Research Design: Choosing Among Five Traditions' (Creswell, 1998), Creswell defines qualitative research as:

> *An inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.* (Creswell 1998:15)

A qualitative study allows for 'how' and 'why' questions to be asked of the participants in order to generate the capture of rich and thick narrative and understanding of individual experiences. Creswell (1998) further contends that a qualitative study,

through the use an inductive style and a focus on individual meaning, assists in bringing a human perspective to a complex issue (Creswell, 1998). The aim of the study was to investigate and understand employee meaning and of the possible interplay of Lean and Respect for People. A subjectivist approach is well positioned therefore to explore participant beliefs and perceptions of Lean and Respect for People.

All research studies contain a certain amount of researcher bias. It is acknowledged that this study was conducted from an insider perspective in relation to Lean and Respect for People at the case company. As both practitioner and consultant, Lean is viewed as a way to improve productivity as well as a way to improve employee work life, much in keeping with the view of Rinehart et al., (1997) that 'combining the search for objectivity with a recognition of the researcher's own values has a long tradition in the social sciences' (Rinehart et al., 1997:210). It is suggested here that Lean methodologies can only come to life through human co-operation. This was the basis of the argument offered by Taiichi Ohno that the technical tools of Lean could succeed only with the aid and understanding of the employees who used them (Ohno, 1988). It is important therefore to understand what Respect for People is and how and why it could be such an important ingredient for successful Lean implementations.

A quantitative approach was rejected due to the nature of the research questions developed for this study. An empirical perspective is interested in external evidence that supports or rejects questions posited in the form of hypotheses. As a great of research in Lean has already been conducted from a positivist perspective, an interpretivist approach was adopted to seek new knowledge through a phenomenological perspective of data collection and data analysis. Phenomenology was selected as a suitable philosophical and methodological approach for exploring the meaning of Lean and Respect for People and is discussed next.

3.3.2 Phenomenology

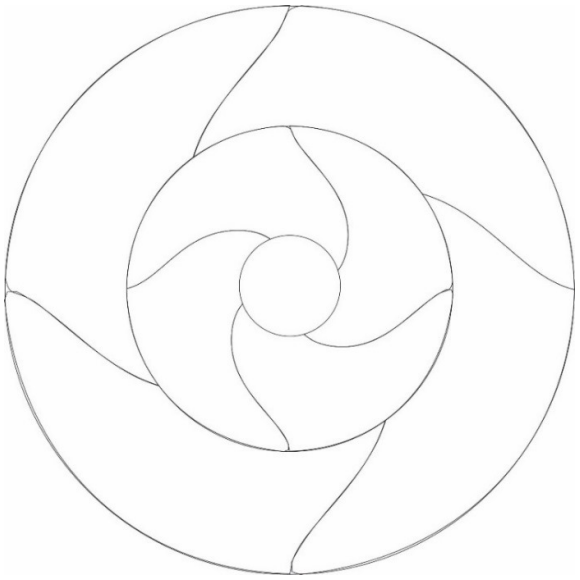
Phenomenology aims to gain a deeper understanding of the nature or meaning of everyday experiences (Van Manen, 1994). Van Manen (1994) argues that 'phenomenological research is the attentive practice of thoughtfulness' (Van Manen, 1994:12) and that 'we gather other people's experiences because they allow us to

become more experienced ourselves' (Van Manen, 1994:62). Phenomenology is a research method that is employed frequently by qualitative researchers (Dowling, 2007, Denzin and Lincoln, 2003, Creswell, 1998). There are various phenomenological approaches which range in perspective from the Husserl's positivism to Merleau-Ponty's post-positivism to Heidegger's interpretivism to Gadamer's constructivism (Dowling, 2007). Husserl's approach to phenomenology, and later Merleau-Ponty, was one of rigorous and unbiased study of things as they appear (Dowling, 2007). An attempt is made to understand a phenomenon as free as possible from cultural context. The emphasis is on pre-reflective experience and not reflective experience or resorting to interpretations (Dowling, 2007).

Martin Heidegger, on the other hand, believed that the researcher played an integral part in the examination of phenomenological data. He is often credited with bringing phenomenology and hermeneutics together (Vagle, 2014). With Heideggerian phenomenology, humans live in the world as interpretive beings in a continuously interpreted world (Vagle, 2014). As the study's aim was to understand the meaning of Lean and of Respect for People, and as the researcher was an organisational insider, an interpretive phenomenological approach using Heidegger's philosophical lens of interpretation of meaning was selected as an appropriate way to examine employee meaning of Lean and Respect for People.

Further to the Heideggerian approach, Vagle (2014) argues that this view of phenomenology includes a hermeneutic perspective which emphasises meaning through manifestations rather than Husserl's belief in describing essences. Manifestations come into being and are always in a constant state of interpretation (Vagle, 2014). Vagle (2014) offers the following conceptual model to help visualise Heidegger's philosophical approach to the exploration of lived meaning.

Figure 2 – Vagle's (2014) Heideggerian Hermeneutic Spiral Conceptual Model



The wavy lines contained within the outer circle represent the idea of meaning always in motion (Vagle, 2014). This conceptual model was adopted as a starting point for the conceptualisation of findings for the phenomena of Lean and Respect for People discussed in Chapter Six because it aided in pictorially representing a notion of interpreted meaning of Lean and Respect for People always in motion. As Vagle (2014) suggests, phenomenological meaning could represent a personal dialogue that can change, rather than a description of an essence that is static. There is no essential core, but instead there can exist multiple meanings derived from each person's lived experience.

3.3.3 Interpretive Phenomenology Approach

Interpretive Phenomenological Approach, or IPA, is a relatively new qualitative research approach that was developed within the field of psychology (Rassool and Nel, 2012, Smith et al., 2012). IPA is concerned with exploring in detail how participants make sense of their personal and social world, and the main focus of IPA is the meanings particular experiences and events carries for participants (Smith & Osborn, 2008 as cited in Rassool and Nel, 2012). Knowledge is formed through interpretations leading to

understanding and meaning (Redmond and Suddick, 2012). IPA is both phenomenological, that is, a detailed exploration of participants' personal experience and perception, and interpretative, that is, an attempt by the researcher to make sense of participant's world through a process of interpretative activity (Smith & Osborn, 2008, as cited in Rassool and Nel, 2012). This approach accepts and embraces the inter-relatedness of the researcher as part of the research process and allows the researcher's own understanding and experiences to be brought to the study (Mapp, 2008 as cited in Redmond and Suddick, 2012).

3.4 The Research Design

Crotty (1998) suggests developing a research process by asking four questions that represent four elements of a framework (Crotty, 1998). These questions are what methods does the researcher propose to use; what methodology governs the choice and use of methods; what theoretical perspective lies behind the methodology in question; and what epistemology informs this theoretical perspective° A framework was developed for graphically demonstrating the answers to Crotty's (1998) questions for the research conducted. The framework also included a world view perspective suggested by Creswell (1998) as typically seen in qualitative approaches to research. With this research path, the aim was to make sense of, through the act of interpretation, the meaning employees had of the phenomena of Lean and Respect for People. The research design constructed therefore was a qualitative phenomenological study with participant data gathered through semi-structured interviews and two focus groups. The time period of interview data collection spanned April 2015 to December 2015. The time table for the two focus groups spanned July 2016 to November 2016. The following table is a visual representation of the framework developed.

Table 6 - Philosophical Underpinnings of the Research

Philosophical Underpinnings of the Research				
Epistemology (Crotty)	Theoretical Perspective (Crotty)	World View (Creswell)	Methodology (Crotty)	Methods (Crotty)
Subjectivism	Interpretivism	Social Constructivism	Qualitative study	Semi-structured interviews
		Understanding	Inductive development of themes	Open ended questions
		Multiple participant meaning		Specific context in which people work
		Theory generation		Address processes of interaction
				Researchers acknowledge their background shapes interpretation

Further, Crotty's (1998) assumptions for constructivism were adopted in order to employ a perspective that honours qualitative research. These assumptions revolve around the social perspective of meaning. Meanings are constructed by human beings as they engage with the world they are interpreting (Crotty, 1998). Meaning and understanding of the context for both Lean and Respect for People was sought of the participants by gathering information personally. The author selected his work community and captured meaning primarily through the use of a semi-structured interview process. Additionally, a focus group subsequently explored an emergent theme arising from the data and a second focus group sense-checked the research findings. Questions were designed to be open ended so that the participants could share their views on Lean and Respect for People. Interpretation of participant meaning was subsequently shaped in part by the researcher's own experiences and background as a manager and a Lean practitioner. The following table depicts the key themes which were ultimately used to develop research questions from the critical literature review in

Chapter Two and how the questions satisfied the aim, objectives and methodology of the thesis.

Table 7 – Research Questions Origination from the Lean Literature

Research Questions Origination from the Lean Literature	
Key Themes	Supporting Literature Citations
There exists a great deal of quantitative evidence of organisational benefits to implementing Lean methodologies: reduced lead times, reduced costs, improved quality and engaged employees.	(Randhawa and Ahuja, 2017, Alaskari et al., 2016, Albliwi et al., 2015, Rymaszewska, 2014, Salim et al., 2013)
However, the failure rate for organisations implementing Lean appears to be high.	(Coetzee et al., 2016, McLean et al., 2015, Mirdad and Eseonu, 2015, Saja et al., 2014)
Organisational culture is suggested as a reason for failure.	(Randhawa and Ahuja, 2017, Mirdad and Eseonu, 2015, Jadhav et al., 2014)
The Lean literature suggests that Lean can be mean to employees tasked with implementing and using Lean methodologies.	(Arlbjørn and Freytag, 2013, Hasle et al., 2012, Carter et al., 2011, Bruno and Jordan, 2002)
The notion of Respect for People is suggested as an important cultural element for encouraging employees to successfully implement Lean methodologies but there is a gap in the literature. No evidence of what Lean or Respect for People is from the employee perspective and how the employee understanding of Respect for People might facilitate the implementation of Lean methodologies.	(Coetzee et al., 2016, Gupta et al., 2016, Mirdad and Eseonu, 2015, Lam et al., 2015, Mazzocato et al., 2014, Ljungblom, 2014, Kosuge, 2014, Dibia et al., 2014, Jadhav et al., 2014, Hird and Noakes, 2014, Drotz and Poksinska, 2014, Balle, 2014, Muzyka, 2014)
Thesis aim: to investigate and better understanding the meaning of Lean and Respect for People from the employee perspective	
Thesis objectives: identify cultural themes of employee meaning for Lean and Respect for People, explore the impact that the phenomenon Respect for People could have on the acceptance of Lean methodologies by employees, and develop a conceptual model of meaning for Lean and Respect for People.	
To examine this gap in the literature a qualitative study was conducted using the following research questions: What does Lean mean to employees, what does Respect for People mean to the employees, and does Respect for People help enhance the implementation of Lean methodologies°	

3.5 Ethical Considerations

Ethical approval for this study was sought and granted by the Edinburgh Napier University Ethics committee. The study followed a model that differentiated the researcher in most regards from participants. There was little shared control over the design and conduct of this study with the participants. Being cognisant of my axiological position of managerial values and favourable opinions of Lean, which may not have been congruent to the views, experiences and perceptions of co-workers, was important. An attempt at creating some distance between myself and the subject at hand assisted in establishing credibility and trustworthiness. On the other hand, the study of Respect for People in a Lean context was congruent with values important to me. This motivated the research. There was also an awareness by the participants that Lean implementation was part of my duties and that data collected about Lean may have been a reflection of my coaching and mentoring practices, especially when the some of the participants had primarily learned about Lean through my efforts. Sensitivity to any unintended reflection of my own biases in the data was exercised. This possible influencing of the data was taken into consideration as data was collected.

Interviewees came from two of four work centres within the plant. As much as possible, representation from all levels of the organisation and types of work were reflected in the group of interviewees selected. The eleven interviewees held various positions in the company, including those that worked on the product on the shop floor as well as those who supported the work through management activities. Informed consent, confidentiality and protection of individuals are central to guidelines on research ethics (Blaxter et al., 2010). Protecting the rights of participants was a top priority and much effort was put into having safeguards in place. Informed consent was used to communicate that all reasonable precautions for privacy and anonymity would be exercised. Informed consent was also used to communicate the purpose of the interview. Another safeguard was to ensure participation was strictly voluntary in the research process. Participant agreement, willingly provided, is a requirement for ethically sound research (Flick, 2014). At no time in the solicitation process was any connection intimated between the request for volunteers and work requirements.

Harm and risk to employee job security were considered. My role within the case company was that of a manager and Lean facilitator. This role came with inherent power and influence. Those interviewed knew that I had some ability to influence or decide career paths or influence other managers with potentially sensitive personal information learned from the interview process. Attention to the researcher-participant relationship that was being fostered within the greater manager/employee relationship was essential. It was important that the honesty and trust developed between the researcher and co-workers in the last six years continue to be maintained.

Time and effort for each of the participants was considered. Due consideration was also given to the owner of the business with regard to the cost of the interviews to the company conducted on work time. A suitable arrangement was achieved that included an interview period which used both the employee's unpaid lunch time and paid work time. It was deemed unnecessary for monetary compensation to be considered for this study for the participants as this was not a practice of the organisation and none of the participants requested compensation as a prerequisite for interviewing. Care was taken to edit the transcripts for any names, situations or references that could identify the interviewee or any fellow co-worker mentioned in the interviews. Names were replaced with 'employee X' and specific company work references were deliberately modified by the researcher to become more general in nature. All interviewees were offered the opportunity to read their typed transcript and all did so.

3.6 Methodology

3.6.1 Pilot Study

The pilot study was a test of the research methodology and the specific use of a method consistent with the research methodology. Harding (2013) suggests that a pilot study is crucial 'because it can identify potential difficulties and so reduce the danger that flawed data is collected' (Harding, 2013:48). The following section describes the site selection, pilot study process and the lessons learned for the main study.

3.6.1.1 Site Selection

The case company is situated in Southwestern Ontario, located equally distant from Toronto, Ontario and Detroit, Michigan. Michigan is one of the top producing US states for automobile production. Southwestern Ontario is home to a large automotive manufacturing base. Many of the major vehicle manufacturing companies such as Ford, GM, Chrysler, Toyota, and Honda have a significant presence in these two geographically close locations. Numerous parts supply plants populate both Michigan and Southwestern Ontario. The company, at the time of the study, employed 160 people across three product lines of stamping dies, machine automation and CNC tooling. The organisation performs all stages of a project in-house from design, machining, assembly, electrical integration and internal run-off to installation of products at the customer site.

3.6.1.2 Pilot Study Process

The intention of the pilot study was to test the interview, data collection, analysis, and findings process and to allow for small modifications to the subsequent main study based on what was learned from the pilot study. The pilot study made use of purposeful sampling to select interview participants. A number of types of purposeful sampling techniques were considered as suggested by Saunders et al., 2012, with criterion sampling being chosen for this study. The criteria were developed as follows. Firstly, employees must have had current workplace experience or previous workplace experience with the implementation of a Lean methodology. Secondly, all employees were drawn from full time permanent positions. Thirdly, participants could be drawn from all levels of responsibility within the company.

Criterion sampling was selected because the case company was relatively new to Lean methodology implementations. While a number of employees had had an opportunity to engage in one or more Lean activities, many had not. The intent was to interview those who did have some experiences and could thus reasonably comment on their lived experiences with Lean practices. Barbour (2008) argues that interviews are often considered to be the 'gold standard' for qualitative research (Barbour, 2008:113, as

cited by Harding, 2013). The following excerpt from my reflective journal comments on my choice to use semi-structured interviews as the primary data collection method.

Researcher Reflective Journal Entry 2 – February 9, 2014

> Seidman (2013) argues that 'at the very heart of what it means to be human is the ability of people to symbolises their experiences through language. Recounting narratives of experience has been the major way throughout recorded history that humans have made sense of their experience' (Seidman 2013:8). Why does this approach resonate with me° Perhaps it is because I as a practitioner use language and narratives in the form of stories as my primary method of working with others in Lean. I find myself telling stories as a way to connect with my fellow co-workers. Story telling is the connection between me and the individual(s) I am working with. Storytelling forms the bond which allows trust to be established. Trust and credibility are two important themes in my company's organisational culture. I was hired to work from the inside because of this. Previously, outside consultants were not trusted and were not able to spend enough time to develop meaningful relationships with employees. Will phenomenological interviewing be an effective way to uncover the meaning of Lean and Respect for People at my company° Seidman (2013) advises that listening is the most important skill in interviewing (Seidman, 2013). When asked which method is best, Abnor and Bjerke (1997) argue that one cannot rank one approach above another. The only thing one can do is to try to make explicit the special characteristics on which an approach is based (Abnor and Bjerke, 1997, as cited in Blaxter, Hughes and Tight, 2010:59).

Potential interview participants were contacted by a hand delivered letter that explained the purpose of the study and inviting participation. An example of the invitation letter can be found in Appendix D. Pilot study participants were selected from two of four work centres within the company. Four participants signed a letter of consent before commencing the interview process. An example of the consent form can be found in Appendix E. Verbal permission was obtained from the President and the senior managers of the two work centres to conduct interviews during the thirty-minute lunch break with the balance of any interviews completed on company time.

The following process was trialed for generating data for analysis from pilot study. An interview question matrix was created; interviews were conducted; interviews were transcribed; the interview audio file was compared against the transcribed data on two separate occasions for accuracy; the participant was asked to review his typed transcript for errors, omissions or misrepresentation; the participant was asked for any further thoughts or comments upon submission of their reviewed transcription; the participant was asked to sign their submission to acknowledge authenticity of the transcript; the researcher's electronic copy of the transcript was modified to reflect any penned changes to the participant's copy of the transcript; the transcript was loaded in the analysis software *f4analyse*; transcripts were analysed and codes were assigned to parts of the data; patterns were developed by grouping codes together; themes were developed by grouping patterns together; initial findings were reported based on the developed themes. The pilot study process worked well and only small changes were made to the process before its use in the main study.

3.6.1.3 Lessons Learned

Upon completion of the four pilot interviews, opportunities were noted for improvement of the semi-structured interview process. These opportunities were summarised into four small improvements: development of an interview guide to provide better structure to the interview process, simplifying the language used for the interview questions to improve clarity, introducing an opening questions section to make the participant feel more comfortable, and introducing a closing questions section to bring the interview a more formal close.

3.6.2 Main Study

3.6.2.1 Research Approach

The methodology developed in the pilot study was employed in the main study. The opportunity to test the initial methodology allowed for small modifications to enhance

the main study process. Examples of this were the development of an interview guide and the refinement of some of the wording in the interview question matrix as discussed in the previous chapter. While the main study continued the use of a semi-structured interview process developed in the pilot study, a focus group consisting of four participants from the interview process was also used to explore an emergent theme of *Respect for Self* that arose from the original interview data. A second focus group consisting of three Lean peer practitioners was used to sense-check the findings of both the interview data and the emergent theme focus group data. Interestingly, the eleven interviews and two focus group interviews produced a database of 116,263 words typed over 367 pages. The seven interviews conducted during the main study phase were drawn from the same two work centres as selected in the pilot study. The following figure demonstrates the final combined mix of participants by work centre and by employee position for both the pilot study and main study.

Figure 3 - Interview Selection Groups for the Pilot and Main Study

Work Centre 1

	Front Line	Supervisory	Total
Employees	48	6	54
Participants	4	3	7

Work Centre 2

	Front Line	Supervisory	Total
Employees	22	3	25
Participants	3	1	4

Total Front Line	7
Total Supervisory	4
Total Participants	11

Participants held various levels of responsibility within the company, ranging from front line technical responsibilities to supervision to management. Almost all participants had many years of experience in the skilled trades. Experience with Lean varied between those who learned Lean at the case company and those who learned Lean at a previous place of employment. The following table provides summary information about the eleven participants who provided data for the study.

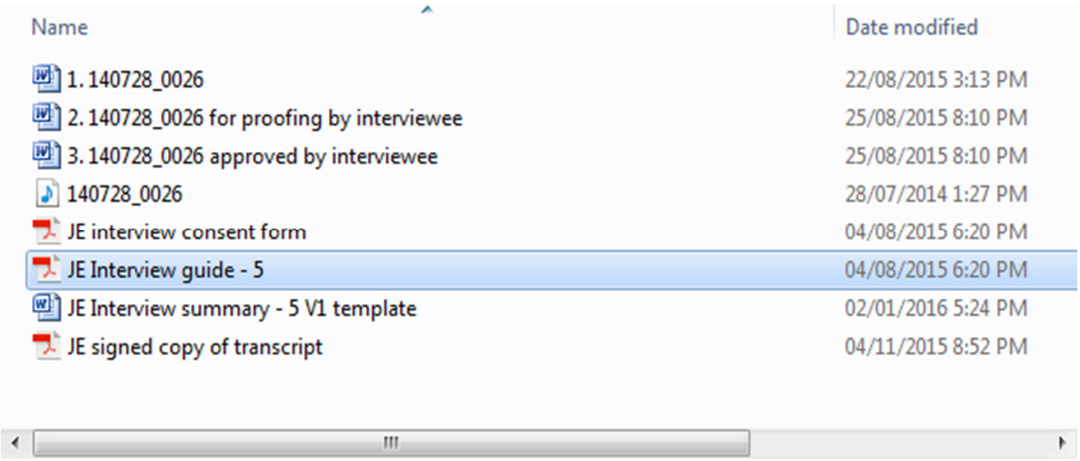
Table 8 – Participant Information Summary

Participant Information Summary			
Participant	Role	Skill Set	Lived Lean Experience
1	Manager	tool & die	at the case company and at previous places of employment
2	Front-Line	electrical controls	at the case company and at previous places of employment
3	Supervisor	machine assembly	at the case company
4	Supervisor	machine assembly	at the case company
5	Front-Line	tool & die	at the case company and at previous places of employment
6	Front-Line	machine programming	at the case company and at previous places of employment
7	Front-Line	tool & die	at the case company
8	Supervisor	purchasing	at the case company and at previous places of employment
9	Front-Line	machine programming	at the case company and at previous places of employment
10	Front-Line	machinist	at the case company and at previous places of employment
11	Manager	tool & die	at the case company

3.6.2.2 Main Study Methodology

A documented process checklist was used for the main study as summarised in Appendix F. Each participant's electronic file folder was set up to reflect the first part of this structured process. An example of a participant's file folder with all of the completed files is displayed in the following figure.

Figure 4 - Completed Interview File Folder



The checklist included the steps of a pre-interview process, an interview process, a post interview process, a transcription process and a data analysis process. Each is described as follows.

3.6.2.2.1 Pre-Interview Process

Each of the seven participants was selected from the voluntary submissions pool and a date was established with the individual for the semi-structured interview. A consent form and interview guide were printed.

3.6.2.2.2 Interview Process

A few minutes ahead of the agreed interview time the desk was cleared of paperwork and the consent form, audio recorder and interview guide were strategically placed on the desk. The audio recorder was tested. The participant appeared at the agreed upon time of noon, closed the office door and sat down on the opposite side of the desk. The participant was reminded again of the voluntary nature of the interview and of his right to withdraw at any time in the process. The consent form was read and signed. The audio recorder was tested again to ensure that the participant's voice was clearly audible. The beginning of the interview was announced and the recorder was activated. The participant was greeted and thanked for participating in the study. As the interview was conducted notes were made in the interview guide. The general sequence of questions in the guide was followed. The participant was thanked at the conclusion of the interview and the recorder was turned off. The consent form, interview guide and audio recorder were packed up and put away.

3.6.2.2.3 Post-Interview Process

At home in the office a printer was used to scan the consent form and interview guide into a PDF format. The PDF was placed in a designated computer file folder in a personal laptop. The paper copy was stored in a binder organised by participant number. The recorder's audio file was transferred to the same designated file folder.

3.6.2.2.4 Transcription Process

f4transkript transcription software was used to import the audio files and type up the transcripts. A first pass at a transcript draft took two or three sessions over a few days to complete. Average hours to complete a draft ranged between six and eight. After each session, the work was saved and updated as a rich text format Word document. The Word document file name used the numbering system of the audio file preceded by '1.' For example, a participant's first transcript saved using the naming convention of '1.140728_0026.' A completed transcript was set aside for one or two days and then

reviewed and compared to the audio file for possible transcribing errors. The transcript was reviewed a third time by comparing to the audio file. Word's spell-check function was employed to carefully correct transcription spelling errors. Suggested grammatical errors by the spell-checking function were not corrected in order to preserve the participant's exact choice of words and phrasing. The transcript in Word format was saved as a second file named '2. 140728_0026.' This was done to provide an audited trail of changes made in creating a transcript ready for participant review. This also allowed a re-set file to be available should a Word document become corrupted at any point in the transcription process. An earlier version was always available to work forward from should the data backup process fail to provide a good restored copy.

Finally, the multiple files and naming conventions indicated at what stage each interview process was at. The second interview file was printed and the paper copy placed inside of a plain 8" by 11" manila envelope. This was given to the participant and he was asked to read the transcript for authenticity and return the copy with any changes marked in ink. The participant was asked to sign the last page of the transcription to indicate agreeance of the transcript and its authenticity. The signed paper copy was scanned into the participant's computer file folder. It was read for any changes marked in ink and these changes were updated and saved in an amended file named '3. 140728_0026 approved by interviewee.'

Researcher Reflective Journal Entry 3 – April 26, 2015

How does the work environment impact people's notion of Respect for People° It struck me this evening from my first interview that the physical environment may be an important factor in Respect for People. Lean stresses going to the Gemba (going to the place where the work is being done). If the Gemba is disorganised or chaotic, does this mean that people may see this as a sign of disrespect for them°

3.7 Data Analysis

3.7.1 Analysis Method 1: A Top Down Approach

The following process was developed for analysis as suggested by qualitative researchers selected by the author as competent to provide analysis methodologies for an inductive qualitative study.

1. Summarise each interview (Harding, 2013)
2. Apply a constant comparative method to the summaries (Harding, 2013)
3. Code data (Miles et al., 2014, Saldana, 2013, Harding, 2013)
4. Group codes into patterns (Miles et al., 2014, Saldana, 2013, Harding, 2013)
5. Develop themes from the patterns (Miles et al., 2014, Saldana, 2013, Harding, 2013)

Barbour (2008) argues that interviews are often considered to be the 'gold standard' for qualitative research (Barbour, 2008:113, as cited by Harding, 2013). When more sources are used for understanding, the richer the data becomes and the more believable the findings (Glesne, 1999). The following excerpt from the researcher's reflective journal comments on the choice to use semi-structured interviews as the primary data collection method.

3.7.1.1. Summarising Interviews

Each transcript was read in a first pass and a summary of the data recorded in a Word document following steps recommended by Harding (2013) above. These steps included identifying the research objectives that the section of the transcript was most relevant to, deciding which pieces of data were most relevant to this these objectives, and deciding where there was repetition that needed to be eliminated. On the basis of these decisions, summarising notes were written.

An Excel spreadsheet template was developed to capture data resulting from the application of the steps above. The first version of the template consisted of six tabs subtitled 'RQ 1A Meaning of Lean,' 'RQ 1B Meaning of Respect for People', 'RQ 2 Does

Respect for People Facilitate Lean' 'RQ 3 How can Respect for People be Enhanced,' 'Good Lean Examples' and 'Poor Lean Examples.' One more tab, 'Sustaining Lean' was added during the summarising of interview five. The four previously summarised interviews were reviewed a third time to add relevant content for the additional tab 'Sustaining Lean'.

Summarising enabled the reduction of the tremendously large amount of information available from the transcripts to a data size that made it easier for main points to emerge. It also facilitated the method of making comparisons between interviews. A strength of semi-structured interviews is that a common set of questions allows for the possibility of making direct comparisons in order to identify possible common or divergent themes. A second pass was undertaken for each transcript to evaluate if anything had been missed in the first pass. This was done a day or two after the first pass. Differentiating between what was common and what was not common across the first two selected interviews for analysis was a next step.

3.7.1.2 Constant Comparative Method

The constant-comparative method was originally advocated by Glaser and Strauss as part of their grounded theory design (Harding, 2013, Merriam, 2009) but authors such as Barbour (2008) (as cited by Harding, 2013), Charmaz (2006) (as cited by Harding, 2013) and Merriam (2009) (Merriam, 2009) argue that the constant comparative method of data analysis is inductive and is widely used throughout qualitative research. Further, Dey (2004) (as cited by Harding, 2013) suggests that 'comparison is the engine through which we can generate insights, by identifying patterns of similarity or difference within the data' (Harding 2013:66). Harding (2013) concludes that while this method is closely linked to comparative analysis, its aims overlap with those of thematic analysis, particularly the examination of commonality and of difference (Harding, 2013). Consequently, a constant comparison spreadsheet template was developed and populated using the following steps recommended by Harding.

1. Make a list of similarities and differences between the first two cases to be considered.
2. Amend this list as further cases are added to the analysis.
3. Identify research findings once all the cases have been included in the analysis.

The following table is an example of interview summary data comparison for participants seven and eight.

Table 9 - Constant Comparative Interview Summary Analysis Example

Constant Comparative Interview Summary Analysis Example Research Question 2: What does Respect for People mean to employees at the company°		
	Interview 7	Interview 8
SIMILARITIES	Common courtesy	Treat people as you wish to be treated
	Being listened to	Willingness to listen
	Being asked for suggestions	Involving everyone in a process – from management to people affected by the change in a process
DIFFERENCES	Say 'Hello' every morning Has to be earned Job knowledge Respect goes both ways Being diplomatic Suggestions taken seriously and investigated Feel they mean something to the company	Respect equals trust Leading by example Try to help out

Starting with no particular interview in mind, Participant Seven's interview data was chosen to populate the 'similarities' section of each Excel tab. There was a choice of placing all of Participant Seven's main points in the 'differences' section as a starting point, but I decided that comparing for similarities was equally a consist and repeatable process for comparative method purposes. It was preferable to work with the similarities section as the top section and the differences section in the bottom section to start the analysis.

Arbitrarily selecting Participant Eight as the first comparison interview, data from that interview that 'matched' data from Participant Seven were pasted opposite Participant Seven's interview data in the similarities section. Data from Participant Eight which did not correspond with data in interview seven's 'similar' section were placed in Participant Eight's column 'differences' section. Data from Participant Seven that did not match data from Participant Eight were moved to Participant Seven's 'differences' section. A second pass concluded the constant comparison process for that interview. Table 7 demonstrates an example of the results from the first and second pass at finding similarities and differences between Participants Seven and Eight.

Over the course of a few months all of the interview columns were filled by data generated from the interview summary process. From the similarities section of the Excel spreadsheet, patterns were identified and initial themes developed. As this process was being conducted, a second process ran simultaneously which involved the following methodology.

3.7.2 Analysis Method 2: Bottom Up Approach

Codes are labels that assign symbolic meaning to the descriptive information compiled during a study (Miles et al., 2014). Saldana (2013) defines a code as 'most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing and/or evocative attribute for apportion of language-based or visual data' (Saldana, 2013:3). Charmaz (2001) describes coding as the 'critical link between data collection and their explanation of meaning' (Charmaz, 2001, as cited by Miles et al., 2014:72). It is a form of early and continuous analysis (Miles et al., 2014).

As each transcript from the transcript process was completed, it was imported into a qualitative analysis software called *f4analyse*. This software became the electronic repository of data through which coding, patterns and themes could be developed. The electronic software allowed the full transcript to be analysed from the bottom up by assigning codes to any chunk of data anywhere in the full and unedited transcript. A two cycle qualitative coding process was followed as recommended by Johnny Saldana (Saldana, 2013). Saldana (2013) describes these two processes as First Cycle coding and Second Cycle coding.

3.7.2.1 First Cycle Coding

First Cycle coding methods are codes assigned to data chunks. From twenty-five approaches suggested by Saldana (2013), descriptive coding, In Vivo coding and simultaneous coding were chosen as methods for analysing interview data. Descriptive coding was used to assign labels to data in order to summarise in a word or short phrase the basic topic of a passage of qualitative data. In Vivo coding used words or short phrases from participants' own language as codes. Saldana (2013) suggests that this method of coding is suitable for studies that prioritises and honours the participant's voice (Saldana, 2013). Simultaneous Coding sometimes occurred when data content suggested multiple meanings. At times, a data chunk was coded as both In Vivo and descriptive, or two descriptive codes were applied to the same data chunk, or data contained overlapping sequential units of qualitative data. These three coding techniques worked well together to allow the generation of codes for Second Cycle method analysis. Each transcript was initially reviewed twice for coding opportunities. However, subsequent coding efforts for each transcript did occur throughout the data analysis period. As new codes, patterns and themes emerged transcripts previously analysed were reviewed again for relevant data.

3.7.2.2 Second Cycle Coding

Second Cycle coding worked with the codes developed from first cycle coding. Pattern codes are explanatory or inferential codes that identify an emergent theme,

configuration or explanation (Saldana, 2013). They pull together a lot of material from First Cycle coding into more meaningful units of analysis. They are a sort of meta-code (Saldana, 2013). Miles et al., (2014) argue that pattern coding is not always a precise science, but rather it is primarily an interpretive act (Miles et al., 2014). Edgar Schein's (1992) multi-level analysis of organisational culture consisting of artifacts, espoused values and underlying assumptions became a framework for the author to view First Cycle codes through this lens. Data were examined for multi-level dimensions of meaning within both notions of Lean and Respect for People. As an example of this type of examination, the following excerpt from my reflective journal reveals some of my thoughts on the data collected from the second interview.

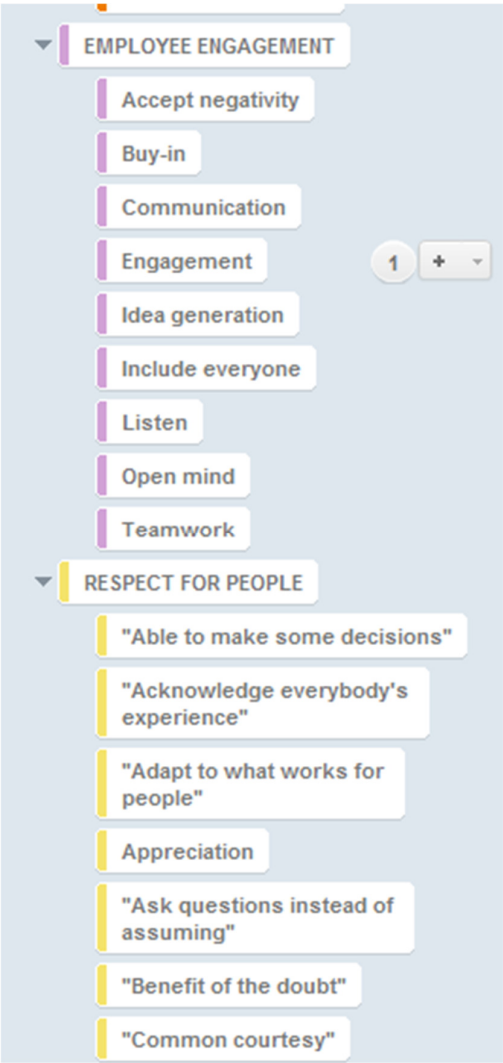
Researcher Reflective Journal Entry 4 – April 26, 2015

From the second interview, I was struck by the depth of experience the interviewee had with Lean from previous employment. Interestingly, he has not had much interest in applying this experience at my company. Perhaps he does not see how he can help beyond his current functional role. I wonder why this is the case° Are we respecting people if we do not make use of their talents and experiences, in this case those that could help with the implementation of Lean methodologies° From the perspective of practice, how can I as a Lean facilitator engage those who have had prior workplace Lean experiences°

As recommended by Miles et al., (2014), analysis with First Cycle and Second Cycle methods were conducted concurrently with each other and with ongoing data collection. For example, while working in *f4analyse* some codes from First Cycle analysis with similar meaning were observed that could be grouped together into pattern (Second Cycle analysis). A pattern name or phrase would be created and those codes moved under the pattern name. The generation of patterns allowed thematic analysis to begin, motivating the researcher to cycle back and forth between the linking of data to codes, codes to patterns and patterns to themes and vice versa. As an illustration, a theme of 'individual beliefs' came quickly from the coding and pattern analysis at the pilot stage of four interviews. However, other codes did not fit this theme. More than

one theme would be required to account for the numerous codes that had not yet been grouped into patterns. An example of a First Cycle and Second Cycle coding analysis conducted in the *f4analyse* software is demonstrated in the following figure.

Figure 5 - Patterns and Supporting Codes



Reflecting upon earlier researcher journal notes, other possible noted themes for un-matched First Cycle codes considered were processes, work spaces, attitudes, head, heart, and hand. Reflection on a possible theme of a work environment or work space began to emerge and the researcher went back to the codes and began assigning codes to a pattern labelled 'physical attributes of respect.'

Table 10 - Thematic Data Sorting by Interview Question

Thematic Data Sorting by Interview Question		
Research question: What does Lean mean to employees in the company°		
Interview Question	Pattern Heading	Assigned Data Codes
Can you describe in your own words what the term 'Lean' means to you°	Meaning of Lean	Being organized, 'best way of managing,' best way of manufacturing, clean, concept, continual improvement, continuous flow, efficiency, guidelines not rules, less fat, less inventory, less waste/no waste, mindset, never ending, philosophy, problem solving, procedural way of doing things, process improvement, reduces manufacturing costs, reduces waste, 'removing excess activities you don't need,' running a business, 'streamlining your processes from top to bottom,' team based, transparent, works for everyone, work smarter, not harder
What is your opinion of Lean°	Opinion of Lean	Difficult, evolving, 'eliminates chaos and stress,' easier for a production shop, generally good, 'has its place,' 'I like it,' 'lean has perspective, depends on where you're standing,' much to learn, 'need to do it as a group from the top,' provides structure and discipline, 'some things Lean can't make work in the current environment,' 'the lean tool doesn't fail, the group does,' 'I want to be more involved,' 'you gotta keep the human aspect of it'
What do you think is important when implementing a Lean tool°	Important Attributes of Lean	Accountability, 'buy in,' 'explaining the main reason for Lean,' front line employees know their job best, 'have to have a reason,' involving employees, lots of procedures, management support, momentum/success, no exact answer/method, openness to opinions and ideas, persistent drive, show the benefits, standards, solutions that work for everyone, 'supervisors play a huge role,' teaching environment, unity of purpose, use of measurements

The table (10) above demonstrates another thematic approach using the interview questions as Second Cycle pattern codes. Exporting the patterns and codes from *f4analyse* to an Excel spreadsheet, a chart was developed to capture data by key interview questions in the Question Matrix. The interview questions in turn linked to the three research questions formulated from the Lean literature review in Chapter 2. See Appendix C for a review of the list of interview questions organised by the three research questions. In the table above, codes were grouped by such a framework of

interview question, pattern heading and assigned data codes for the research question 'What does Lean and Respect for People mean to employees in the company°'

Researcher Reflective Journal Entry 5 – Analytical Memo April 26, 2015

I conducted my fourth interview today. It seemed to flow well, with most questions prompting a good response. I still have a couple of interview questions that are difficult to answer, so I will need to change those. I am learning from these interviews that the participants are at different places in their Lean journeys, and therefore give different answers based on their experiences. Some focus on the business aspect of Lean benefits while others focus on the human aspect of Lean. Answers come easier for what is Lean and not so much for what is Respect for People. Is this particular to the case company or is this a more generalisable finding°

I am interested in learning more about:

- Does using a more holistic approach that considers the role of people in Lean lead to a more successful implementation of Lean methodologies°
- If so, how does it lead to a more successful implementation°
- Why does it lead to a more successful implementation°
- What are the implications for companies who wish to adopt Lean methodologies°

I am hearing that employees believe that there are cultural factors important to Lean and Respect for People. Currently, these include: communication, leadership, training, listening, treating everyone fairly, respecting everyone's role regardless of skill set and pay scale, listening, creating buy-in and employee engagement.

Analytical memos were written to capture significant thoughts about the coding and analysis of data. An excerpt from my reflective journal displayed above is an example of such a memo and reveals my thought process around the development of possible codes for the meaning of Lean and Respect for People at a particular point in the data analysis. Saldana (2013) suggests that memos can take various forms, reflecting on such topics such as personally relating to the participants or the phenomenon of Lean and Respect for People; the study research questions; the selection of code choices and their

operational definitions; the emergence of patterns, categories, themes, concepts and assertions; links, connections and flows between codes, patterns, categories, themes, concepts and assertions; emerging or related existing theory; potential problems with the study.

3.7.3 Thematic Development from the Two Analysis Methods

Codes, patterns and initial thematic development from the two separate data analysis methods existed initially in two separate Excel spreadsheets. Final thematic development took place by combining the two spreadsheets into a single repository in the form of additional worksheet tabs on one of the Excel spreadsheets. Although the data were combined, color coding of each code and pattern (red for one data base, blue for the other data base) allowed traceability back to the two starting databases. Applying both a top down summarising approach and a bottom up full transcript approach to identifying codes, patterns and themes led to each interview transcript being reviewed multiple times in the analysis process. This was meant to enhance credibility, as Harding (2013) argues that the multiple readings of each interview make it more likely that the findings of this study might accurately reflect the original data.

3.8 Discussion of the Methodological Approach

3.8.1 Trustworthiness

Qualitative research has been criticized on several levels and as such, this study has the same potential limitations. The notions of trustworthiness and credibility can be used to demonstrate an effort to control for potential biases that might be present in a qualitative work such as this study (Bloomberg and Volpe, 2012). Creswell (1998) advocates 'a rigorous approach to qualitative research using systematic procedures' (Creswell, 1998:9). He postulates that qualitative inquiry is 'a legitimate mode of social science exploration' and that 'good models of qualitative inquiry demonstrate the rigor, difficulty and time-consuming nature of this approach' (Creswell, 1998:9). Some strategies offered by Creswell (1998) and used in this study included the following.

There was no conscious or undue attempt to influence the contents of participant lived experience descriptions. Interviews were transcribed as accurately as possible in order to convey each interviewee's meaning of Lean and Respect for People. Transcribed data of lived experience were demonstratively linked to the interpreted meanings of Lean and Respect for People in Chapter Five to provide traceability and openness to the reader.

Other strategies for rigour and trustworthiness for this study included certain aspects of phenomenological bracketing as recommended by Chan et al., (2013). These included the use of reflexivity to help identify areas of potential bias, keeping a reflexive diary, thorough planning before data collection, interviewing participants using open-ended questions, and generating knowledge from participants via semi-structured interviews (Chan et al., 2013). These aspects were selected as being congruent with interpretative phenomenological analysis employed in the study.

Lastly, other strategies were employed. These included submitting transcripts to participants and incorporating any changes or additional data suggested by them, supervisory oversight with the separate analysis of two individual transcripts and a comparison of significant statements, and a focus group consisting of a sub-set of participants to explore emergent themes. Reflections from this group led to the revealing of an emergent theme of *Self* and the development of a Lean diagram and a Respect for People diagram to visually depict each phenomenon. Finally, a Lean peer practitioner focus group discussed the credibility, usefulness and transferability of the findings and the conceptual model.

3.9 Chapter Summary

This chapter has provided the philosophical approach and analysis methods employed to generate the research data. A qualitative, phenomenological research design was employed, using a semi-structured interview data collection method to generate data. A pilot study was conducted to examine the feasibility of this approach before employing it in a larger scale study. No significant issues were identified with the approach and a main study was conducted. Data analysis were conducted on both the

pilot study and main study data using a top down and bottom up approach. With the top down approach, data were summarized in a Word document and a constant comparative method applied to the data in order to develop codes, patterns and themes. With the bottom up approach, each transcript was imported into data analysis software in order to assign codes to the data. Codes were then grouped into patterns, codes and themes. Final thematic development took place by combining the two sets of analysis into a single repository. Ethical considerations and the relevance of trustworthiness and credibility within a qualitative study were then discussed.

Large amounts of data were offered by the participants on the notion of Lean and Respect for People and the impact it could have on facilitating a Lean implementation. A number of themes for both Lean and Respect for People were developed. While the Lean literature was not able to offer much in the way of definitive research on employee held meaning of Lean and Respect for People, this study generated a deep and rich account of the meaning of Lean and Respect for People for employees. In the next chapter, these themes of meaning with supporting data for employee held meaning of Lean and Respect for People are revealed.

CHAPTER FOUR: FINDINGS

4.1 Introduction

This chapter reports on the findings from the research conducted in support of the study's aim to examine and better understand employee lived experiences of Lean and Respect for People. The findings represent the collective lived experience of front line workers, supervisors and managers at the case company. Details on the participants can be found in Chapter Three, Table 8 on page 49. The following two tables summarise the findings of this study for the phenomenon of Lean and the phenomenon of Respect for People. Data are then presented to support the findings in the following manner. Individual interview data are disclosed first, followed by participant focus group data, and lastly, peer Lean practitioner data.

Table 11 - Summary of Research Findings for the Phenomenon of Lean

The Phenomenon of Lean	
CORE CONCEPT OF MEANING	DIMENSIONS
1. Humanity	Inclusiveness Group Activities Lean is a Good Thing Eliminating Chaos and Stress Difficult to Implement Buy-in Openness and Transparency
2. A Way of Doing Things	Efficiencies Processes Organising and Managing Reducing Waste
3. Taking Care of One's Surroundings	Cleanliness Having Time to Clean A Place for Everything

Table 12 - Summary of Research Findings for the Phenomenon of Respect for People

The Phenomenon of Respect for People	
CORE CONCEPT OF MEANING	DIMENSIONS
1. Respect for Self	Personal Standards Believe in What You Are Doing Family Values Respect for Self-Fluctuates Accountability Confidence in What You're Doing
2. Respect for Others	Appreciation Respect Goes Both Ways Fairness We Can Contribute Acknowledging Our Experiences It's Expected Trust Everyone Makes Mistakes Listening Communication
3. Respect for The Work	Pride Discipline Structure
4. Respect for the Physical Environment	Respect for One's Surroundings

Each core concept of meaning and its accompanying dimensions is presented using narrative text as a guide with quotations from the participants shown in italicised text in order to support and highlight significant areas within each emergent theme identified from the analysis process. The data are grouped into three sections of individual interview data, participant focus group data and peer Lean practitioner focus group data. The participant focus group explored an emergent theme of *Respect for Self* and the peer Lean practitioner focus group discussed and sense-checked the draft findings and the conceptual model for applicability to practice.

4.2 Individual Interview Data

4.2.1 The Phenomenon of Lean

Analysis and interpretation of individual interview participant data on the meaning of Lean revealed three core concepts of *Humanity*, *A Way of Doing Things* and *Taking Care of One's Surroundings*. While each participant may have related to only one or two of the core concepts, or one or two of the dimensions within a core concept, collectively the participants painted a complex picture of meaning for the phenomenon of Lean.

4.2.1.1 The Core Concept of Humanity

The first significant core concept of participant meaning of Lean was described as *Humanity*. Participant Six identified the human aspect of Lean specifically:

> *So, when you turn around, you're still in contact, you're not a robot, you know, you still gotta keep the human aspect of it*.

Several dimensions could be attributed to the concept of *Humanity*. These were *Inclusiveness*, *Group Activities*, *Lean is a Good Thing*, *Eliminating Chaos and Stress*, *Difficult to Implement*, *Buy-in* and *Openness and Transparency*.

4.2.1.1.1 Inclusiveness

Many of the participants described an element of inclusiveness when articulating what Lean meant to them, using such language as 'everyone,' 'including' and 'involving.' For example, Participant One, when asked what was important when implementing a Lean tool such as problem solving, 5S or visual management, believed that getting everyone involved was key. He also noted that inclusiveness was important for employee *Buy-in*, a dimension discussed in section 4.2.1.1.6.

> *Getting everybody involved. You have to get people to buy in, because if people don't buy in, there's no such thing as Lean. Bring them into a meeting or talk to them one on one and tell them what you are thinking*

about. If they have any ideas on how you can make it work better, ah, you gotta get people to buy in to stuff.

Participant Three noted his change in perspective as he was promoted to a middle management position. This led him to believe that the notion of including everyone in a Lean project made his transition from front line employee to project manager easier:

But as, as I made the transition from employee on the floor to project manager it quickly became apparent, more so, how valuable it is. And, teaching that to everyone and, and showing them the benefits and involving them in the projects makes, um, makes that transition a lot easier from someone, ah, in my, in my older position to where I am now.

Participant Nine advocated including as many people as needed as a way to improving Lean outcomes. He too drew a connection between two dimensions, in this case between *Inclusiveness* and *Group Activities,* a dimension discussed in section 4.2.1.1.2.

But when it comes to aspects of Lean, if ah, if ten people come up with a, a way of improving the process, it should work based on the experience of ten different people. It's always ah, as a team a, as a team ah, approach to solving an issue. And ah, streamlining, I believe ah, it's the right thing to do. I just can't come up with ah, anything that ah, would be developed to be a better process that wouldn't work out.

Participant Ten felt the most important thing when implementing a Lean tool was finding solutions that worked for everybody. Including everyone in the process of solving problems was helpful in maintaining the trust of the employees. *Trust* is a dimension of the core concept of *Respect for Others* discussed in section 4.2.2.2.7.

It's gotta be a solution that will work for everybody. So, I'm not going to put in something into the system that's gonna throw everyone off. You gotta be very, very careful when you're implementing Lean. It's not going to mess everybody, anyone up. And that way you, you keep that trust, which is important. If all your ideas are outrageous, then you won't be able to implement anything. They'll only adopt it if it does help them.

Participant Ten also suggested another reason for inclusion. He believed everyone had a different understanding of what Lean meant. Only by asking each other what Lean meant to them could a shared meaning of Lean be developed at the company.

I think everyone has a different understanding of what it means so, even to sit down and ask someone, 'What does Lean mean to you?' And then, have them explain, and then suggest any holes and, or missing understanding that they didn't bring up. Be like, OK, well, could mean this too.

4.2.1.1.2 Group Activities

For some participants, *Group Activities* was a theme of meaning for Lean. For Participant Three, Lean meant working in teams or groups, and perceived benefits of working as a team. Working together as team could positively impact *Efficiencies*, a dimension described in section 4.2.1.2.1.

Ah, just from, just from involvement in Lean initiatives, working together as a group to come, ah, come up with, um, with, with better ah, methods of, of efficiency. It definitely it makes you feel more of a, a unity, ah, a team member that ah, just the involvement alone makes, makes you feel more like a group instead of segregated.

Participant Five identified the dimension of *Group Activities* as an indicator of meaning for Lean, and a dimension that he himself enjoyed working with. He also associated *Group Activities* as part of a broader Lean definition that included the dimension of *Efficiencies* discussed in section 4.2.1.2.1 and *Pride*, a *Respect for the Work* dimension discussed in section 4.2.2.3.1. When these dimensions were combined, he believed the workplace would be a happier place to be.

It's a very team, team-based environment. And I think that, well, most people, I like to be part of team. I like 6S, I like ah, and to be honest I like things that are easy sometimes too, you know. Like, some jobs are just hard and some things are, obviously more difficult than other things. But if you can make it the most efficient that it is, that it can be, um, I, I just think that, you have a sense of pride or whatever at the end of the day, kind of, and everybody can, everyone can take part in that. And I think that, it's just a happier place to be when things are, are like that.

Participant Seven described a group activity of problem-solving with a team of co-workers as an example of what a Lean exercise meant to him. He also included the dimension of *We Can Contribute*, described in section 4.2.2.2.4 when he suggested that being taken seriously was important to the group activity.

> *Yeah. Just that ah, an example we talked about, we had our five-day event for the fitting stations. I felt that ah, during that um, during that process that not only myself but it seemed like everybody in the room that had a suggestion, it was taken seriously and it was, it was um, investigated. And people tried to make the best of it or turn it into a good idea or utilise it.*

Participant Nine couldn't think of any process more effective than working as a team to solving issues. He was describing his work experience at a prior place of employment. He linked the dimension of *Processes* discussed in section 4.2.1.2.2 to the group activity of teamwork.

> *It's always ah, as a team a, as a team ah, approach to solving an issue. And ah, streamlining, I believe ah, it's the right thing to do. I just can't come up with ah, anything that ah, would be developed to be a better process that wouldn't work out.*

Further in the interview Participant Nine gave an example of a team meeting that also impacted the dimensions of *We Can Contribute* described in section 4.2.2.2.4 and *Acknowledging Employees' Experience*, both found section 4.2.2.2.5 of the core concept of *Respect for Others*.

> *We got different backgrounds, different experiences and ah, I believe that we can all pitch in. And even if somebody says something silly, I'd still rather have, hear, hearing that than not hearing anything. Cause even from silly ah, statement, you can ah, come up with a brilliant idea. Ah, maybe ah, the way we ah, acknowledge our experience and ah, fact that we can contribute.*

Participant Eleven, in describing the group activity of meeting at a departmental whiteboard, suggested there was an impact to not working as a group on Lean processes. This impact affected *Organising and Managing*, a dimension discussed in section 4.2.1.2.3.

> *We haven't decided to do it as a group and, if you don't decide to do it as a group from the top, then you get all this misbehaving in, in the levels below. And, so, so then, and then, and then you get discouraged, and then, you know, discouragement just leaves you walking away. (Pause). And it, and it means that we aren't as organised as we can be.*

4.2.1.1.3 Lean is a Good Thing

Some participants expressed a belief that Lean was good for the company. Participant One articulated this belief when asked what Lean meant to him.

> *Lean is a process. Lean is a good thing. Lean will help your business function. Lean will help you clean up waste. Ah, there's many functions of Lean, like, more than I can mention.*

Participant Two recalled a work life experience at a prior company as an example of why he thought Lean was good for companies and employees.

> *It felt great, everyone on the team was happy because, ah, it, there was instant success, right? It was, um, you know, the operator was very happy because now he had a system there that helped him. The supervisors felt happy because now they get better product, they don't have quality coming, coming down on them. And, the quality people are happy because they, you know, they don't have the customer coming down on them, right? And from, the implementation team, they saw that they were doing something good that made everyone else happy, so, it was a win-win. Everyone felt good.*

Participant Four believed that Lean was a good concept and necessary in today's workplace, although difficult to apply. *Difficult to Implement* is a dimension discussed in section 4.2.1.1.5.

> *I think it's a good concept overall. I think it's a difficult concept to implement. Um, I think it's a necessary concept nowadays too to be competitive in today's environment*.

Participant Five also expressed his belief that Lean was good, although difficult to apply. *Difficult to Implement* is a dimension discussed in section 4.2.1.1.5.

> *Generally good, I think. I think it's a, I think it's in, when I took the training, I found, and maybe its ah, maturity, or, or understanding processes and that, but, (pause) I found, what I found difficult is when you're doing different things all the time, to relate the principles that you've learned and apply the principles to every situation.*

4.2.1.1.4 Eliminating Chaos and Stress

Participant Seven believed that if the company was not implementing Lean, the work environment would be more stressful for employees. Employees may even lose their jobs if customers were not happy with current company performance in areas such as on-time delivery.

> *I never heard about that at the company that Lean has ah, created stress as far as, job losses or whatever. I think that, to be quite honest with you I think that the other, the opposite has more truth, where, if we're not Lean, and we're not doing things efficiently, and we're not getting things out the door on time, that creates more of a stressful environment because we may lose that customer. And if we lose that customer, we're not building this machine, and you know, guys are going to lose their jobs right away. If we're not Lean we're going to lose more jobs than if we are.*

Participant Nine also believed that Lean eliminated chaos and stress.

> *I believe, that ah, ah, eliminates ah, chaos (pause) and stress.*

He went on to describe the lack of chaos at a nearby Toyota plant. He touched on several dimensions to articulate what Lean meant at Toyota. These dimensions included *Processes* (section 4.2.1.2.2), *Organising and Managing* (section 4.2.1.2.3) and *Cleanliness* (section 4.2.1.3.1).

> *Oh yeah. And they are involved in Lean too. On almost every process they have. And they employ probably two thousand people, and everybody knows what to do. Super organised place. Clean. No chaos.*

Participant Eleven reflected upon the implementation of a Lean tool that did not go well, and the chaos that was still present in the work area as a result.

> *We've done the whole 5S thing. I wouldn't say it failed as a, it didn't fail as a tool. It, it just, it just failed, with this particular group. Because, you know, with, with this group, it just, you know, it just didn't catch on. And it's still all over the place, you know, very chaotic looking.*

4.2.1.1.5 Difficult to Implement

While data did not reveal any particular negativity towards Lean, some participants believed that Lean could be difficult to implement for various reasons. Participant Four suggested that long held habits could make Lean difficult to implement.

> *People hate change. So, that was, that will be the most tough one to crack, especially when things are been such a mind set with long term employees here. It makes it that much harder. Some of these things are so deep rooted, you know, the habits that makes it a lot more, harder struggle.*

Participant Seven echoed similar sentiments about work habits impacting Lean initiatives. He described himself as having the same old habits as everyone else.

> *I think that ah, old habits die hard. Everybody has their systems and the way they do things, it's hard to change. I'm the same way.*

Participant Five also commented on the difficulty of implementing Lean.

> *But then you have people, you know. I've done it this way for twenty years, I've never had a problem. I think it works just fine, you know. And it may work just fine for him, and he may not, him or her may not care that you can do it eight seconds faster. If it ain't broke, don't fix it.*

Participant Five then offered another possible perspective on the difficulty of implementing Lean. It could be difficult to relate Lean principles to all work situations.

> *When I took the training, I found, and maybe its ah, maturity, or, or understanding processes and that, but, (pause) what I found difficult is when you're doing different things all the time, to relate the principles that you've learned and apply the principles to every situation.*

Participant Ten saw difficulty in giving everyone the freedom to offer various solutions but paradoxically taking freedom away when making everyone follow that one best solution once it had been decided upon.

> *It's ah, it's almost a, ah, dictatorship kind of thing, where you, you want to include as much people as possible, but once you come up with a solution, you have to say OK, this is what we're doing. This is how we're doing it.*

Participant Eleven found difficulty with the impact that Lean had with his expectation of others. It took him a long time to understand Lean, but ironically, his expectation for others was that they should learn Lean quickly now that he understood it.

> *So, (laughter), now you're in this odd position of convincing people, that it took a long time for someone to convince you (laughter), and, and you want to streamline it now, you're in a hurry. Why aren't you getting this? It only took me four years! I should be able to get you hooked up in a couple of months!*

4.2.1.1.6 Buy-in

Some participants defined certain behaviours as necessary for implementing Lean methodologies. One such behaviour was buy-in. For Participant One, without buy-in, Lean wouldn't work.

> *You have to get people to buy in, because if people don't buy in, there's no such thing as Lean. Instead of the guy just looking at the tool and throwing it down the hole, he may put in the bin for sharpening. If you got him on side then you would have a hundred drills to sharpen instead of five, the rest got thrown out.*

Participant Eight felt that allowing employees to get a say in their work, a *We Can Contribute* dimension discussed in section 4.2.2.2.4, was important to the buy-in of a Lean methodology.

> *Buy-in. (Pause). From everybody involved in the, in the process. So not just management but also the people that are actually, it will directly affect. (Pause) And I think that's where the front office has actually had a lot of success. Because, with the whiteboard meetings, people actually get a say in those, you know. In that final step in the final procedure, so, yeah. So, I feel, OK, you know, I, I feel like I can do this, let's now work around that and compromise and get, you know, a final, ah, solution.*

Participant Eleven expressed buy-in as an ingredient for success.

> *Buy-in from the individual is, is ah, maybe not what you need to get started but you certainly need it to be successful.*

4.2.1.1.7 Openness and Transparency

Some participants identified the notion of *Openness and Transparency* as a dimension of Lean. Participant Two had this to say about having an open mind and its impact on Lean. He linked *Openness and Transparency* to *Processes*, *A Way of Doing Things* core concept dimension discussed in section 4.2.1.2.2.

> *You know, so fairly basic, just to have an open mind and then not to criticize and then engage in the process. And then the process will take care of itself.*

Participant Three linked openness and the persistent drive to reduce waste as important ingredients for a successful Lean tool introduction. The dimension of *Waste* is *A Way of Doing Things* core concept discussed in section 4.2.1.2.4.

> *One thing that's important when introducing, ah, a Lean tool or initiative would be, ah, openness to, ah, to opinions, I guess, along with, ah, along with a persistent drive to, ah, achieve, ah, a reduction in a type of waste.*

Participant Four also commented on the dimension of being open. He included the *Respect for Others* core concept dimension of *Communication* described in section 4.2.2.3.2 when giving advice about Lean.

> *Just try and keep an open mind too. Communicate openly and make sure you keep doing that.*

Participant Five agreed that keeping an open mind was important.

> *I would say that you have to keep an open, keep an open mind.*

Participant Eight offered up his lived experience of when employees were first introduced to Lean.

> *What is Lean? What can it do for the company? What can it do for me? If people aren't open to the idea, it'll, it'll never fly. But, you know, you take the basics of it, and you take the, the, teachings and you can apply it pretty much at, any, any level, any, any manufacturing, any, any place, really.*

Participant Eight contributed further to the notion of openness when asked what would help Lean thrive and sustain. He too combined the dimension of *Openness and Transparency* to that of *Communication*, a *Respect for Others* core concept dimension described in section 4.2.2.3.2.

> *Openness. People have to be willing to be open, and, and communication. People have to be willing to communicate, right? I think that's one, one of the biggest things that I've, I've seen that, ah, the continuous improvements that we've made happen because people are willing to, to listen and provide feedback. I've always been a big believer in, in openness and communication.*

Participant Ten also commented on the notion of openness and transparency.

> *Like, as a human we just don't know everything, right? We have to be open minded to new ideas and ah, I believe respect would be just acknowledging employees' experience and ah, trying to work with them. Lean is definitely, whether you look at top or bottom, but um, it should be transparent.*

4.2.1.2 The Core Concept of a Way of Doing Things

The second significant concept of participant meaning of Lean was described as a way of doing things, as suggested by Participant Eight.

> *A lot of Lean, you know, is ways of doing things.*

Four dimensions could be attributed to this concept. These were *Efficiencies*, *Processes*, *Organising and Managing* and *Waste*.

4.2.1.2.1 Efficiencies

Participant Three suggested that Lean meant being efficient. One way to improve efficiencies was to employ the *Group Activities* dimension identified in the core concept of *Humanity* discussed in section 4.2.1.1.2, with the dimension of *Cleanliness* discussed in section 4.2.1.3.1.

> *Like I said before you can, you can increase your capacity, you can work in a cleaner environment, you're more efficient. Ah, (pause) you can even*

> *build a stronger team I would say. Ah, just from, just from involvement in Lean initiatives, working together as a group to come, ah, come up with, um, with, with better ah, methods of, efficiency.*

Participant Five had similar thoughts about the combination of the dimensions *Efficiency* and the *Humanity* core concept dimension of *Group Activities* in section 4.2.1.1.2. He also included the *Respect for the Work* core concept dimension of *Pride* found in section 4.2.2.3.1.

> *If you can make it the most efficient that it is, that it can be, um, I, I just think that, you have a sense of pride or whatever at the end of the day, kind of, and everybody can, everyone can take part in that.*

Participant Four described Lean in terms of efficient work flow from concept to finish. He linked the dimension of *Efficiency* with *Communication*, a dimension of *Respect for the Work* discussed in section 4.2.2.3.2.

> *More efficiency, it's a big description, um, more efficiency and less inventory. More efficiency in product going through a shop from start to finish, from concept to finish we'll say. Whiteboards would be an example. We have numerous people attending a white board, so that board is, has items introduced to it every day by many different people. So, everybody's job is important, but this will set a priority of what is first, next, second and third and fourth. It also communicates to all the people on the floor what is first, second, third and fourth.*

Participant Six suggested that Lean meant getting things done faster and more efficiently. He identified the core concept of *Taking Care of One's Surroundings* in section 4.2.1.3 and the dimension of *Fairness* in section 4.2.2.2.3.

> *You know, you take care of your surroundings, and you treat people with respect, your processes are quicker, people are happier, they're going to work harder and you're going to get things done faster and more efficiently.*

Participant Eleven stated that Lean meant efficiencies and the elimination of waste. The dimension of *Waste, A Way of Doing Things* core concept dimension, is discussed in section 4.2.1.2.4.

I think it means getting down to some basic efficiencies. So, you know, people's time not being wasted, um, resources not being wasted, materials not being wasted.

4.2.1.2.2 Processes

Participant One declared that Lean was a process and provided an example.

Lean is a process. We have a meeting with all the associates, (pause) we tell them what went wrong, and put it to the floor on how we could make it better or, where we went wrong, and change the process, should we do this, should we do that, and you know, that's, that's just one, (pause) one aspect of Lean.

Participant Two used the word 'process' when describing Lean activities.

I ah, got exposed to a Japanese company where we did, um, the Toyota Production System, ah, which was, um, you know your kaizens, and no Muda, and all of the, ah, Kanbans and all that type of process.

Participant Two also advised that the dimension of *Openness and Transparency*, as described in section 4.2.1.1.7, aided employee engagement in work processes.

So fairly basic, just to have an open mind and then not to criticize and then engage in the process. And then the process will take care of itself.

Participant Five described Lean activities as improving processes.

We were all each assigned a different area of the plant, and ah, it was basically to improve processes and improve productivity to, (pause) to help the bottom line ultimately.

Participant Six viewed Lean as streamlining processes and gave an example.

Yeah, um, streamlining your processes, from top to bottom. Lean, you're, you're trying to remove excess um, activities that you don't need. Needless, needless, pointless activities. If you can streamline a process, there's not that meeting about what happened to that part for the fifth time this month. Something as simple as wiping off a block, there's a process. It's not, walk over here, walk over there, you know, everything, everything that you do, if you can streamline it, that's gonna minimize how long it takes.

Participant Seven also offered an example of Lean as a process that included the *Respect for Others* concept dimension of *We Can Contribute* identified in section 4.2.2.2.4.

> *Just that ah, an example we talked about, we had our five-day event for the fitting stations. I felt that ah, during that um, during that process that not only myself but it seemed like everybody in the room that had a suggestion, it was taken seriously and it was, it was um, investigated. And people tried to make the best of it or turn it into a good idea or utilise it.*

4.2.1.2.3 Organising and Managing

Participant One stated being organised was the most important part of Lean.

> *With Lean you have to be organised. With Lean, you have to have set rules. Ah, (pause) it's saying that, (pause) being organised to me is the most important part of Lean. Because if you're not organised you can't function. If you can't function you can't run a business.*

Participant Seven suggested that Lean meant being organised. By being organised, wasteful activities could be eliminated. *Waste* is *A Way of Doing Things* core concept dimension discussed in section 4.2.1.2.4.

> *Lean, um, I guess Lean is less waste, (pause) um, less wasted time finding things, less wasted time um, spent trying to organise stuff that should be organised already.*

Participant Seven offered an example of a successful use of a Lean tool that improved the organisation and management of jobs moving through the shop floor. He felt that the dimension of *Organising and Managing* facilitated the dimension of *Communication*, a *Respect for the Work* core concept dimension described in section 4.2.2.3.2.

> *Ah, successful use of a Lean tool would be the whiteboard used in the small mills. I think the ability to keep track of the jobs in a, in a systematic order. Everything's numbered on the board one through seven, eight, whatever it takes, and if ah, if you disrupt that order, everybody who is involved with it, seemed to know about it. So, it's, it's, it's a formative, there's no secrets ah, communication lines are open.*

Participant Nine described Lean as being organised and therefore requiring less managing and gave an example of this at a previous place of employment.

After we introduced Lean, I was ah, less managing ah, ah, for ah, me to do. Because everything was organised good. And ah, less training also for new programmers and ah, and ah, ah operators and CNC operators and CNC machinists too. Ah, and those probably two the biggest things. Less work for people and ah, for programming and operating people, and that had to do with scheduling and, ah procedures that we had in place.' You didn't have to worry about what's next because you look at the board, done. And the board was updated ah, every morning at eight o'clock and was valid for twenty-four hours.

Participant Ten commented that Lean meant organisation.

Lean is more organisation.

Participant Eleven observed that *A Way of Doing Things* core concept dimension of *Efficiencies* discussed in section 4.2.1.2.1 came automatically if the dimension of *Organising and Managing*, along with the core concept *Taking Care of One's Surroundings* dimension of *Cleanliness* described in section 4.2.1.3.1, and the core concept *A Way of Doing Things* dimension of *Waste* described in section 4.2.1.2.4, existed within the organisation.

I think it means getting down to some basic efficiencies. So, you know, people's time not being wasted, um, resources not being wasted, materials not being wasted. Um, those, those are most of the things I think of.' And, and then, you know, it comes with, and, and those things just automatically come with cleanliness, and, and, and organisation I think.

4.2.1.2.4 Reducing Waste

Participant One suggested that Lean helped clean up waste.

Lean will help you clean up waste.

Participant Two explained his meaning of waste as taught to him by a previous Japanese employer.

Lean to me means, um, (pause, sigh, pause) minimum, ah, basically the Japanese, ah, the, it stuck in my head when they said no Muda, which means no waste.

For Participant Seven, Lean meant less waste.

> *Less waste, (pause) um, less wasted time finding things, less wasted time um, spent trying to organise stuff that should be organised already.*

For Participant Eight, Lean meant working smarter, not harder. This could be accomplished by reducing waste.

> *I would say, (pause) do it smart. (Pause). What is it, work smarter not harder? That would be my, my idea of Lean. Reduce the redundancy. Redundancy, the waste.*

Participant Ten offered an example of waste at the company.

> *You know, every time someone is looking for something, or needs something, the, the time is a waste. So, you need to reduce time. Everything that takes time, improve that, so that it takes less time. And that's where you're going to gain the most results.*

Participant Eleven also described his meaning of Lean in terms of the waste of time, resources and materials.

> *People's time not being wasted, um, resources not being wasted, materials not being wasted.*

4.2.1.3 The Core Concept of Taking Care of One's Surroundings

The third significant concept of participant meaning of Lean was described as *Taking Care of One's Surroundings*. Participant Six's meaning of Lean included this core concept.

> *You know, you take care of your surroundings, and you treat people with respect, your processes are quicker, people are happier, they're going to work harder and you're going to get things done faster and more efficiently.*

Three dimensions could be attributed to the core concept of *Taking Care of One's Surroundings*. These were *Cleanliness*, *Having Time to Clean* and a *Place for Everything*.

4.2.1.3.1 Cleanliness

For Participant Three, Lean meant a cleaner environment, resulting in the dimension of *Efficiency* as discussed in section 4.2.1.2.1. A cleaner environment meant a safer environment too.

> *Like I said before you can increase your capacity, you can work in a cleaner environment, and you're more efficient, giving everyone a, a better, safer environment to work in.*

Participant Four mentioned house-keeping and storage as aspects of a Lean environment.

> *Lean is storage too. We had that building across the room, or road there, it became the bottomless black hole. We still do it with our shelves here. And, on our benches too, and throughout the shop. That is one of our items we have to get better on. It's just house-keeping, which is a Lean environment too.*

Participant Eleven gave a description of cleanliness and brightness as an example of a Lean physical environment. Combined with the dimensions of *Organising and Managing* described in section 4.2.1.2.3 and of *Efficiencies* discussed in section 4.2.1.2.1, this made for a good work environment.

> *The Mexico plant that we went to ah, where I went to, seemed, seemed very organised and very efficient looking, ah, clean, bright, ah, a really good ah, work environment.*

4.2.1.3.2 Having Time to Clean

For Participant Six, employers expected the dimension of cleanliness but employees were not told to clean up and were not given enough time to clean up. He gave suggestions for taking care of his surroundings.

> *A lot of times employers just expect it to happen, but if you're not told to do it, and not given the time, it generally doesn't happen, and that's very evident out on the floor at this company. You see people racing around trying to get stuff done. The next guy comes in they just up and leave. I would say this is messiest shop I've ever worked in. Like, ten minutes before the end of your shift clean up. Start there. Work on it for six months. Make sure everybody does it. Add something else. Designate a*

tool area. So, within that fifteen minutes at the end of your day, not only can you put your stuff away, you can put your tools back.

4.2.1.3.3 A Place for Everything

Participant Ten believed that Lean meant a place for everything. He gave examples of organising his physical surroundings. *Organising and Managing* is *A Way of Doing Things* core concept dimension discussed in section 4.2.1.2.3.

> *Another Lean example is just, ordered a proper toolbox that had many different ah, drawers, shallow drawers, wide, deep, and just lay out all your tooling across the board. And you can see everything laid out perfectly. Everything's out of the cases, everything is visually available, and everything has a home, so that's pretty much a perfect Lean solution, the toolbox like that, a place for everything.*

4.2.1.4 A Summary of the Phenomenon of Lean Data

The data presented in this section provided a deep and rich account of the meaning of Lean for the participants at every level (front line, supervisory and managerial) of the organisation. Experiences shared were from current employment, previous employment, or both. Interpretation of the data suggested that the phenomenon of Lean was complex, consisting of the core concepts of *Humanity*, *A Way of Doing Things* and *Taking Care of One's Surroundings.* Further, each of these core concepts consisted of dimensions. These dimensions could interact with each other within a core concept, or dimensions from one core concept could interact with dimensions from another core concept. For instance, where two dimensions met within a core concept, one dimension could influence, or be influenced by the other dimension. As an example, in section 4.2.1.1.1 the dimension of *Inclusiveness* was felt by Participant One to be an influence on the dimension of *Buy-in* found in section 4.2.1.1.6.

Where dimensions from two different concepts were implicitly linked by a participant, a dimension from one concept could influence, or be influenced by, a dimension from the other concept. For example, in section 4.2.1.3.1 the *Taking Care of One's Surroundings* core concept dimension of *Cleanliness* was believed by Participant Three to influence the dimension of *Efficiency* found in section 4.2.1.2.1 under the core concept of *A Way of Doing Things*.

Where a dimension from all three concepts were implicitly linked by a participant, dimensions from any one concept could influence, or be influenced by, dimensions in the other two core concepts. For example, *A Way of Doing Things* core concept dimension of *Efficiencies* in section 4.2.1.2.1 was felt by Participant Three to be influenced by the *Humanity* core concept dimension of *Group Activities* described in section 4.2.1.1.2 and the *Taking Care of One's Surroundings* core concept dimension of *Cleanliness* examined in section 4.2.1.3.1.

Interestingly, the concept of *Humanity* and its people centred dimensions contained within the Lean phenomenon offered evidence that Lean was, for them, not just about tools and techniques. In some cases, participants described enhanced Lean outcomes in situations where *Humanity* dimensions were present. One example could be found in Participant One's data in section 4.2.1.1.1 where he described his belief that *Inclusiveness* (section 4.2.1.1.1) and *Buy-in* (section 4.2.1.1.6), both *Humanity* core concept dimensions, enhanced Lean techniques such as problem-solving, 5S or visual management. A second example could be found in the *Processes* dimension section 4.2.1.2.2 where Participant Two believed that the *Humanity* core concept dimension of *Openness and Transparency* described in section 4.2.1.1.7 enhanced organisational processes.

Finally, while data indicated that Lean could be difficult to implement, a *Humanity* dimension found section 4.2.1.1.5, participants provided evidence that Lean could have positive benefits for both the company and employees, that is, Lean could be a good thing, a *Humanity* core concept dimension described in section 4.2.1.1.3. For the participants, Lean did not have to be mean. Finally, the data revealed a number of participants with prior Lean experience from previous employment. The significance of these findings and their contributions to the Lean literature is discussed in the next Chapter.

4.2.2 The Phenomenon of Respect for People

Analysis and interpretation of participant data on the meaning of Respect for People revealed four core concepts of *Respect for Self*, *Respect for Others*, *Respect for the Work* and *Respect for One's Surroundings*.

4.2.2.1 The Core Concept of Respect for Self

The first core concept of participant meaning of Respect for People was described as *Respect for Self*. Participant Three specifically connected his notion of *Respect for Self* to the Lean environment he worked in.

> *I think that self-respect is important in a Lean environment.*

Participant One indicated that *Respect for Self* was foundational to the other core concepts of respect.

> *Respect for people? Ah, how shall I say this, you have to have respect for your fellow worker, because if you haven't got respect for him, you really don't have respect for yourself. You know, you gotta, you gotta be able to respect yourself and respect other people too.*

Given the interesting comments of the two participants above, further examination of a possible concept of *Respect for Self* was conducted by forming a focus group of four previously interviewed participants. Data from this focus group, and the resulting dimensions associated with this emergent core concept is discussed later in detail section 4.3.1.

4.2.2.2 The Core Concept of Respect for Others

The second significant core concept of participant meaning of Respect for People was *Respect for Others*. Identified dimensions for this concept were *Appreciation*, *Respect Goes Both Ways*, *Fairness*, *We Can Contribute*, *Acknowledging Employees' Experiences*, *It's Expected*, *Trust*, *Everyone Makes Mistakes, Listening* and *Communication*.

4.2.2.2.1 Appreciation

Participant Three believed that appreciation, combined with the *Humanity* core concept dimension of *Inclusiveness* discussed in section 4.2.1.1.1, was a signal of respect within the company.

> *Ah, appreciation is, is one that comes to mind. Um, and that can be a form of verbal ah, ah, you know, physical, written, ah, um, just um, mannerisms, gestures. Ah, that little bit of involvement will go a long way. And to, the appreciation that they, ah, gain from you paying attention to their, ah, to some of their daily challenges that ah, don't need to be there and are quite frankly wasteful, would be one approach.*

Participant Seven believed that employees worked better if they felt that they meant something to the organisation.

> *Everybody's just going to work better if you treat them like they mean something.*

Participant Seven then provided an example from his work experience at the company that demonstrated what it felt like to not be appreciated for his ideas and work knowledge.

> *They just did it their own way. I felt if you're not going to take advantage of the, the knowledge that we've learned, and just do it your own way, that, I felt kind of, like they weren't listening to me there. It feels like, like you're not really making a difference. And whatever you say doesn't matter. So, you just kind of go along. It makes a big difference in your attitude because if you feel like you're appreciated then you go along and you're trying to make it, you're making an effort to make improvements, you're a part of the big picture here. But if you're not being appreciated in that way, you'll, that attitude will change.*

4.2.2.2.2 Respect Goes Both Ways

Participant One described respect for others as a two-way street.

> *You know, you gotta be able to respect yourself and respect other people too. And they gotta respect you as, as a human being too. It's, it's, it's a two-way street the way I see it.*

Participant Three believed that respect had to be both shown and perceived between two parties. These two parties could be individuals or groups such as management and shop floor employees.

> *And, and it's just how it's not perceived but how, ah, how it's shown or, ah, um, or even taken on the other end of the stick I guess. I think it's a, I think from, from a management level to on the floor level, it's, it's got to be, there's got to be a mutual respect both ways.*

Participant Seven suggested that everybody wanted to be respected and that respect should go both ways between himself and his co-workers.

> *Well, everybody, everybody wants to be respected. Um, if you belittle them, or call them stupid, or ignore them, when they have things to say, then they're not really gonna want to work with you, they're not gonna listen to you either. They're not going to respect you because it goes both ways.*

4.2.2.2.3 Fairness

Participant Four thought of fairness when asked what came to mind for Respect for People. He also linked the dimension of *Communication* found in section 4.2.2.2.10 to his meaning of Respect for People.

> *Treat them fairly. Um, communication, no talking down to them. Um, everybody is important, so, everybody's on the same playing field in the end. Everybody has just a different job to do, whether it's a project manager, whether it's a guy on the shop floor cleaning up, whether it's the president, everybody has a spot in the place. So, I would maintain it by trying to treat people equal.*

For Participant Eight, respect for others meant treating people the way that they want to be treated. Respect also meant being treated fairly.

> *I would say treat people the way that you want to be treated. To me respect is, is, (pause) you know, being treated fairly and, and ah, yeah, just as I want to be treated, you know. I've always believed that you can't really, you can't really have a fair assessment of a person until you've actually been in their shoes.*

Participant Six echoed a similar sentiment of fairness when asked what his definition of respect was.

> *Definition of respect is treat them as you want to be treated. You learn that in kindergarten, don't you? Like if you're going to be brash, expect some attitude. If you're going to look them in the eye and talk to them respectfully, I think you're going to get more return talk back.*

Participant Nine made reference to fairness when describing a manager group activity at a machine whiteboard. *Group Activities* is a *Humanity* core concept dimension identified in section 4.2.1.1.2. *Fairness* was a requirement for the managers in order to get agreement on the work to be done.

> *You have to get ah, all the managers agreeing on stuff and be fair.*

4.2.2.2.4 We Can Contribute

For Participant Seven, respect was being able to contribute suggestions that were taken seriously and investigated. He was taking part in a group problem solving exercise with a team of co-workers.

> *We had our five-day event for the process improvement. I felt that ah, during that um, during that process that not only myself but it seemed like everybody in the room that had a suggestion, it was taken seriously and it was, it was um, investigated. And people tried to make the best of it or turn it into a good idea or utilise it.*

Participant Eight described the opportunity to contribute as giving people a voice through continuous improvement.

> *Um, as far as, as what we're doing on the floor I think, I think we're on the right track, ah, to get people, um, a voice through the continuous improvement and, and through ah, employee um, committee. I think people feel that their input is, is being valued. That speaks volumes if you're willing to listen to, you know, every single employee.*

Participant Nine felt co-workers were respected when they were given the opportunity to contribute, even if the idea was perceived to be silly by some.

We got different backgrounds, different experiences and ah, I believe that we can all pitch in and ah, fact that we can contribute. And even if somebody says something silly, I'd still rather have, hear, hearing that than not hearing anything. Cause even from silly ah, statement, you can ah, come up with a brilliant idea.

Participant Eleven felt respected when he was able to contribute to a decision-making process in his work area during two 5S events.

We did a couple of 5Ss and, and I, just the position I was in, I was able to, I was able to make some decisions on what things might go and, or stay, ah, in a cleaning out process. So, I, I think I got some respect in that way that, that, they would leave me with those decisions and, and I would make them. So, they respected that, that part of my, you know, decision making.

4.2.2.2.5 Acknowledging Employees' Experiences

For Participant Nine, Respect for People meant acknowledging everybody's experiences. He also believed that acknowledging someone's experience facilitated the dimension of *We Can Contribute* discussed in section 4.2.2.2.4. He described an example of this and reflected upon the impact for the company.

First of all, you have to acknowledge ah, everybody's experience. That would be, ah, first step. I believe respect would be just acknowledging employees' experience and ah, trying to work with them. For example, when we have meetings, we express ah, our ah, own approach to ah, ah, solving the problems, and ah, we usually pick ah, best solution. And we, most cases agree on it. So, I think there's a huge respect.

Participant Six had a similar view of Respect for People. When asked what management could do help with Respect for People, he offered his observation of a manager being receptive to his employees' knowledge and abilities.

Ah, I can see in a particular department, he's really receptive to what those guys know and what their abilities are. And, he relies on them to make the right choices most of the time.

4.2.2.2.6 It's Expected

For Participant Seven Respect for People meant the expectation of common courtesy.

> *Respect for people is, is, I guess common courtesy, for one thing. I expect the fact that every morning I'll say 'Hello' to you.*

Participant Eleven believed that respect for others was expected. It made for a more comfortable workplace. It could be quite a shock when disrespect happened.

> *Well I think it ah, (pause) it means that they, they feel comfortable. Um, cause disrespect either way isn't comfortable. I don't know, it's, it's ah, it's mostly the way people want it to go. So, I think it's expected, and, and, when disrespect happens, it, it's, it's quite a shock.*

Participant Eleven felt that because respect was expected, even an occasional outburst or any other type of poor behaviour could jeopardise respect between people.

> *Well, it's, it's, it's a, it's like a game of 'Snakes and Ladders,' isn't it? Everybody in the process of being respectful slips every now and again, and slides, so there's your snakes. And, typically, a very short snake will, will, put you back more than many long ladders (laughter), because you, once respect becomes expected, ah, you really, you really lose ground fast, in, in an outburst, or, or some situation where somebody sees you behave badly. You could be the world's best bridge builder and, and no one would care, but, you do one evil thing, and you're remembered for it forever.*

4.2.2.2.7 Trust

Participant Five described trust as a dimension of Respect for People by telling the following story of a supervisor and his interaction with his employees at a previous place of employment.

> *When I worked at a previous company, there was a guy, he was a manager of, in like three different departments. He'd come around and joke with you, and say 'How's it going? What's going on? Heavy workload tonight?' And people just loved working for that guy. He never had to sneak around corners and chase people. It was 'I'm going to trust you that your job is done. If I see you out in the hall, or, somewhere I'm going to trust that your job is done. And I'll go check and if it's not done we'll have a problem, but, I'll treat you like a, like an adult. If your job is done then, you can talk, you can talk to buddy over there.' He created an*

environment where he didn't really have to supervise because everybody was doing what they were supposed to do.

Participant Eight was asked 'What would you want others to learn from this experience of being respected˚' He answered that respect had to be earned through trust.

Respect is one of those things that um, it's hard to earn and it's hard to maintain but it can be very valued. Respect has to be trust, um, earned through trust and, and just by leading by example. Then obviously to maintain it, you have to carry yourself in the same manner where somebody could actually trust and respect you and, you know, not, not throw them under the bus or do something questionable.

Participant Ten believed that keeping everyone's trust was important when implementing Lean ideas.

You gotta be very, very careful when you're implementing Lean. That's the most important thing, is to make sure it works for everybody. It's not going to mess everybody, anyone up. And that way you, you keep that trust, which is important. If all your ideas are outrageous, then you won't be able to implement anything.

4.2.2.2.8 Everyone Makes Mistakes

For Participant Two, Respect for People was recognising that it is human nature to make errors. Viewing errors as opportunities for improvement generated respect for the employee.

What comes to mind, is ah, just respect the people, the whole process is respecting the people and, not offending anyone, not, you know, offending the operator that was making the bad parts, right? It's, it's human nature to make some errors and how can we improve it, right? And um, everyone is respecting...I got, I guess that's kind of where I think respecting is.

For Participant Four, acknowledging the frailty of the human condition was important Respect for People dimension. Employees could be struggling and making errors due to reasons outside of the workplace.

I mean, everybody is a person. Everybody makes mistakes. I mean, there's, we've all done it. You have to realise that too, you have to look back past, sometimes the actual mistake, say something's going on, you

should try and know what's going on in people's lives a little bit too. If you know somebody's having a marriage breakdown or something, you're a little more understanding and compassionate, or say somebody's father is in the hospital or something like that. There's a lot of outside forces at play sometimes.

Participant Eight suggested that Respect for People was giving the benefit of the doubt in cases were mistakes or errors were perceived to have been made.

One of the project managers, um, said 'OK, well, I want you guys to update the tracking sheet online.' So, I introduced that and what we're doing that with one project manager as, as a test. Um, by no fault of, of their own, an individual wasn't made aware. So, he was actually going back into the tracking sheets and making changes and deleting the information that we're putting in. So, when the project manager looked at the tracking sheet, you know, his first reaction to me was well, 'You know, you idiot, you don't know what your doing. You were told three days ago to do this, and blah blah blah.' And that, it just kinda went, went downhill really quick, instead of giving us the benefit of the doubt. I found that a little bit frustrating.

Participant Eleven echoed similar sentiments about people jumping to conclusions before an investigation had taken place to understand the perceived error. Doing so created the unintended consequence of feeling disrespected.

What I, what I think happens is, is, is we come to conclusions, or too often people come to conclusions, with, without investigating exactly what happens. And if you don't know exactly what happens, or what happened, then, then you're going to come off disrespectful, doesn't matter what happens.

4.2.2.2.9 Listening

Participant One described the act of listening to what others had to say as good advice for anyone beginning their Lean journey. He suggested one should be open to what the outcome could be by listening with a positive attitude. *Openness and Transparency* was a *Humanity* concept dimension discussed in section 4.2.1.1.7.

I'd say, ah, listen to it, listen to what they have to say. You know what I mean? Don't be negative. Ah..... go in with a positive attitude, and ah, work with them. Let's see what the outcome is.

Participant Two described a Lean activity from previous employment which, in his opinion, did not go well. He suggested that respecting others through the act of listening was a valuable lesson.

> *Respect people's, um, you know, opinions. Um, ah, just listen, and, you know, and offer advice if you're directly involved. You might say, 'OK, you know, how about this approach right here, or how about we go and try to get this other person involved in the team,' right? Um, um, but yeah, it's a ..... respecting I guess is the big thing.*

Participant Five believed listening was the first thing he did when trying to respect others.

> *Well, I think you, you have to listen first. You throw out a problem, you throw out an issue, and um, after that I think you have, you have to listen. You may not agree with everything that they say. You know, usually I, I found that most, almost invariably, that the person that does the job every single day is the one that knows the best.*

Participant Eight was asked what he thought would help Lean thrive and sustain. He answered that listening and providing feedback helped facilitate a Lean culture. Alternatively, pushing things through did not seem to work.

> *I think that's one, one of the biggest things that I've, I've seen that, ah, the continuous improvements that we've made happen because people are willing to, to listen and provide feedback. Ah, the ones that have actually fallen apart are the ones where, you know, we've pushed something through and it, and it kinda falls apart.*

4.2.2.2.10 Communication

Participant Three believed that communication was an important dimension of Respect for People. A lack of communication, conversely, created disrespect amongst the employees.

> *Communication tools essentially is, is how, um, you know someone perceives, or, or doesn't perceive respect, and, quite often in this particular work environment I find that, people feel disrespected from a lack of communication.*

Participant Four indicated that communication was a way to promote Respect for People.

> *Communication. Um, I think when there's problems they should be communicated better too. I mean like, everybody should know what's going on. It's easy to get way-sided and forget to say some things too on some, say, job dates or something like that, or, little key items. Guys are left in the dark a little bit, let's say, it's, so we've starting using some small whiteboards on some of the machines too, just to try and, issues that have to get done. Also, due dates, and some key items. As new guys start they don't know where to look for some of that stuff either, files. Communication.*

Participant Seven suggested that communication contributed to an environment of Respect for People.

> *I just, it's just communication. Let's say the jobs were taken on a bi-weekly or ah, weekly, or a, over a certain number of days, you get together in a smaller group, you come to ah, a machine like we're working on out here and you got the guys who are, and the lead hand calls together the guys who are working on it. 'Alright guys, where are we at? Where do we expect to be today and tomorrow, and are going to be able to get there? What problems have you had, and what do we need to do to address those problems?'*

Participant Eleven offered that language used in communication was important for Respect for People. Conversely, misuse of language could create a communication barrier between co-workers.

> *Like there's, there's, there's groups at the company that, when they're communicating with each other, they're dropping the f-bomb every fourth word, and, and that's just how they talk to each other. And, it's harder to see the line where you're serious and not serious anymore when you're always communicating that way.*

4.2.2.3 The Core Concept of Respect for the Work

The third significant concept of participant meaning of Respect for People was *Respect for the Work*. Important dimensions for this concept were *Pride*, *Discipline* and *Structure*.

4.2.2.3.1 Pride

Participant Five believed that encouraging pride in his team members also encouraged respect between himself and his team.

> *I just think that, you have a sense of pride or whatever at the end of the day, kind of, and everybody can, everyone can take part in that.*

Participant Eight believed that everyone took a certain pride in the work that they did.

> *I think everybody takes a certain pride in the work they do. I don't think anybody wants to come into work and not do, you know, their part.*

4.2.2.3.2 Discipline

Participant One believed that Lean meant having the discipline to set rules.

> *Lean means to me, ah, (pause) running a business. With Lean, you have to be organised. With Lean, you have to have set rules.*

Participant Four felt that Respect for People was influenced by discipline and by structure, a *Respect for the Work* dimension discussed in section 4.2.2.3.4. He talked about a Lean initiative a few years previous and what he would have done differently in hindsight to be more respectful.

> *I think some of the stuff I would have, if I was the president I would have pushed down harder and made sure it stayed happening. Just to drive it through. Um, and it's, been more discipline and structure that it would happen. Because if you have too many apples fall off the cart, all of a sudden, the cart's empty. It ain't gonna go anywhere.*

Further, when asked what the company did to create disrespect for people, Participant Four pointed to lack of structure and discipline.

> *Um, I think sometimes lack of structure, lack of discipline here. Maybe different set of rules for different departments.*

Lastly, when asked what the company could do to better promote Respect for People, Participant Four emphasised structure and discipline.

Um, (long pause) maybe having a little more structure and discipline here. Just, here's our core set of hours. We have our flex hours. These are the hours we have to be here at. If there's extenuating circumstances please talk to your manager about it and we'll go from there, instead of a free-for-all some days. Um, more respect.'

4.2.2.3.3 Structure

Participant Three felt that company structure impacted Respect for People.

Looking at how our, looking at how are company is structured, I could, I could say that if there was already a strong deal of respect between your management team and your ah, workers on the floor, I would say that it's quite possible you could work both ways. It seems like in, in our environment it's, it's way more receptive to work from the floor back towards the management.

Participant Eight believed that more structure would sustain the concept of Respect for People at the company.

More structure, um, defined expectations. I find that a lot of, disappointment, people come from the fact that they don't understand what, what your actual current role is.

4.2.2.4 The Core Concept of Respect for One's Surroundings

The fourth significant core concept of participant meaning of Respect for People was *Respect for One's Surroundings*. For one participant, having a clean physical environment was a type of respect.

4.2.2.4.1 Respect for One's Surroundings

Participant One in his interview described Respect for People as having a clean physical environment to work in.

I don't see stuff wrote on washroom walls. I see..... I don't see people throwing garbage on the floor. Because, if there was no respect there'd be garbage on the floor, there'd be stuff wrote on the walls, there'd be, (pause) garbage all over the place. I've been in shops of workplaces. You

go into the washroom, there'll be stuff wrote on the walls. No respect. Here, I do not see that.

4.2.2.5 A Summary of the Phenomenon of Respect for People Data

The data presented in this section provided a deep and rich account of the meaning of Respect for People for participants at every level (front line, supervisory and managerial) of the organisation. Experiences shared were from current employment, previous employment, or both. Interpretation of the data suggested that the phenomenon of Respect for People was complex, consisting of the core concepts of *Respect for Self*, *Respect for Others*, *Respect for the Work* and *Respect for One's Surroundings*. Further, each of these core concepts contained dimensions. These dimensions could interact with each other within a core concept. For example, in section 4.2.2.2.5 the dimension of *Acknowledging Employees' Experiences* was felt by Participant Nine to be an influence on the dimension of *We Can Contribute* discussed in section 4.2.2.2.4.

Where dimensions from two different concepts were implicitly linked by a participant, a dimension from one concept could influence, or be influenced by, a dimension from the other concept. For example, Participant Eight suggested that the *Respect for Self* core concept dimension of *Family Values* discussed in section 4.3.1.3 influenced the dimension of *Respect for One's Surroundings* in section 4.2.2.4.1. Unlike the Lean diagram presented in section 4.2.1 in which all three core concept dimensions could influence each other, no data could be found that indicated a dimension from any one concept could influence, or be influenced by, one or more dimensions in the other three core concepts.

Significantly, participants often, albeit unconsciously, spoke of Lean a dimension while describing a Respect for People dimension. In this manner, the data suggested that the phenomenon of Respect for People intertwined with the phenomenon of Lean. Participant Six included Respect for People in his definition of what Lean meant to him as reported in the core concept *A Way of Doing Things* dimension of *Efficiencies* section 4.2.1.2.1. Participant Six viewed Lean, in part, as treating people with respect. Although only Participant Six specifically stated the notion of Respect for People explicitly as part of his meaning of Lean, the other participants often implicitly articulated Respect for

People dimensions when referring to Lean dimensions. Interestingly, at the same time, an enhancement to a Lean technique would frequently be offered as evidence. As an example, Participant Seven implicitly linked the core concept *Respect for Others* dimension of *We Can Contribute* found in section 4.2.2.2.4 to the Lean core concept *Humanity* dimension of *Group Activities* found in section 4.2.1.1.2. He was taking part in a particular group problem-solving (a Lean technique) exercise with a team of co-workers.

Similarly, in another instance, Participant Nine linked that same dimension of *We Can Contribute* to section 4.2.2.2.5 *Acknowledging Employees' Experiences* also found in the core concept of *Respect for Others*, and also to *Group Activities*, a Lean core concept of *Humanity* dimension found in section 4.2.1.1.2 when describing his experience with problem-solving meetings. In a last example, Participant Four, in *Efficiencies* section 4.2.1.2.1 described the benefit of improved organisational efficiencies by combining the Lean technique of using visual management whiteboards with *Communication*, a *Respect for Others* core concept dimension found in section 4.2.2.2.10. In summary, participant descriptions of enhanced Lean methodology outcomes often provided examples of the implicit nature of interconnectedness of the Lean and Respect for People phenomena.

Co-incidentally, there was evidence that phenomenological interviewing reflected some dimensions of both phenomena of Lean and Respect for People such as *Inclusiveness*, *We Can Contribute*, *Trust* and *Listening*. Examples of disrespect in the workplace also suggested the possibility of a phenomenon of Disrespect for People. The significance of these findings and their contributions to the Lean literature is discussed in the next Chapter.

4.3 Participant Focus Group Data

4.3.1 The Core Concept of Respect for Self

Additional data for this core concept were derived from a focus group of four of the interviewed participants that explored an emergent theme of *Respect for Self*. Data

from this focus group, and the resulting dimensions associated with this emergent core concept is discussed in detail sections 4.3.1.1 through 4.3.1.6 below. The group consisted of Participants One, Three, Five and Eight. Dimensions identified in the focus group interview data were *Personal Standards*, *Believe in What You're Doing*, *Family Values*, *Respect for Self-Fluctuates*, *Accountability* and *Confidence in What You're Doing*.

4.3.1.1 Personal Standards

Participant Five described *Respect for Self* as having personal standards.

> *I, I think that you do a job and you have, everyone has their own set of standards. If you find that you're not working up to your own standards, then there, you, um, have an issue. I know, it happens to me. I'm big on chamfering things, and chamfering holes, and whatever. And it kind of annoys me when I get something and it's not done right.*

Participant Eight agreed with Participant Five that personal standards played a role in self-respect, and that those personal standards brought value to one's work.

> *Well, you have to, you have to be able to, like, you know, let's think back to, to work or home, or whatever else that you do, you have to have a certain level of standards, or self-understanding to be able to go to that work and do what you're required to do. That has to start from, from the self.*

4.3.1.2 Believe in What You Are Doing

Participant Three suggested that believing in what you are doing was an important part of *Respect for Self*.

> *No matter what it is, you have to, it's, it's a portion of, in my mind, believing in what you're trying to accomplish. You believe in what you're, what, what you're doing and, and how you're approaching the tasks that you're trying to perform, whether it be communicating with others, whether it be, ah, work related, or in the environment that you're in. That's, that's my perspective of self-respect. You believe in what you're doing.*

4.3.1.3 Family Values

Participant One felt that self-respect was influenced by one's family values early in life.

> *Respect is instilled in you when you are a young person. When I was raised by my parents, I always had to do that, open the door for the elderly, women behind you, you opened the door for them. That's instilled that you had a family value. And if you haven't got respect for yourself, you will not have respect for others. Self-respect is instilled in you as a youngster and it follows you on in life.*

Participant Five identified the values of character and integrity as being a part of family values that supported the core concept of *Respect for Self*.

> *That's character, yeah, what he's talking, like, integrity here.*

Participant Eight, when asked about the concept of self, felt that family values played a strong role in determining self-respect. He linked family values to the dimension of personal standards, discussed in *Personal Standards* section 4.3.1.1.

> *Well, going back to the rag, right, everybody knows not to throw it on the ground, right? You don't throw your garbage on the ground, but yet people do it every day, right? It's, it's not, I think it, Participant One hit it on the nail, where it's actually instilled, from, from family values. And it's up to the self to carry out those family values.*

4.3.1.4 Respect for Self-Fluctuates

Participants One and Three reflected in the following dialogue that *Respect for Self* fluctuated, depending upon one's interaction with others, the work needed to be done and the environment one was working in. For example, although Participant Three always tried to adhere to his personal values, or his own sense of family values, a dimension discussed in section 4.3.1.3, he felt other dimensional influences such as *Communication* dimension discussed in section 4.2.2.2.10, and *Respect for One's Surroundings* dimension discussed in section 4.2.2.4.1 influenced his notion of self in the moment. And Participant Three perceived this to be the case when observing the behaviours of his co-workers too.

Participant Three: In my position at the company, I find that my self-respect changes on an hourly, minutely basis. My self-respect of how I deal with the problem to get a solution, changes based upon what I'm trying to achieve, how I'm trying to achieve it, ah, my communication with others, um, and also part of the environment that's, that currently exists.

Participant Eight: But you always go back to your base values, right?

Participant Three: You do at times but you do catch yourself outside of those boundaries. Your core values are always there. They are always with you. But, it can, in mind, it can, in my position, it can fluctuate, every, whatever, fifteen or twenty minutes, hour, two hours, daily, weekly. Depends on interaction more than anything. OK. there's a few guys I know that were raised with tons of self-respect that work here. I catch them also, throw a rag on the floor, not clean up after themselves, so on, and so forth. It is a reaction based upon the environment they're living in? (Pointing to Participant Five). You were referring to your previous work experience, union came in, and, and that's what you figured triggered an environment change, and there's probably tons of people there who had tons of self-respect for each other and themselves. Where did that go? Where did it go?

Participant Eight: So, you're basically saying that if the values were there, nothing should have changed.

Participant Three: Right.

4.3.1.5 Accountability

Participant One believed that without accountability there would be no self-respect.

So, here's another theory, accountability. We're talking about accountability, throwing that rag on the floor. So, without accountability there is no respect. It's in you to be accountable.

4.3.1.6 Confidence in What You're Doing

Participant Three suggested that confidence in what one was doing demonstrated *Respect for Self*.

I would, I would say, self-respect would include confidence in what you're doing, certainly and motivation. When you feel you have self-respect, you're confident.

4.3.2 Respect for One's Surroundings Revisited

In the focus group, Participant One elaborated further on what respect meant to him in relation to the physical environment.

> *Respect could mean, you peel your orange, you put it in the garbage can. You don't throw it on the floor. That's respect for others, respect for the company you work for. When you get done with a hand wipe, you put it in the proper bin, you just don't throw it underneath a die on the floor or leave it laying on a bench. You pick up after yourself. There's all sorts, sorts of forms of respect. Um, when you're not doing this that tells me that you have no self-respect, because you, you know better. You know better not to through that rag on the floor. That's part of self-respect. But you go ahead and throw it on the floor so you have no respect for yourself and you have no respect for others.*

Also, from the focus group discussion, Participant Eight further elaborated on *Respect for People* as respecting everyone's physical work area.

> *Well, you know, having respect for the actual area that you work in. Where I used to work, I would hate to go into an area, when somebody was just there, and it's just a mess, right? There, at my old company, there was certain standards, things were shadow boarded, and, you know, if you're going into a station you expect it to be, you know, left in a certain way. So, that, that's respect for the, for the environment, I think. Because not only are you respecting the work, you're respecting the person. You're respecting the area. Keeping it clean, you know, in my case, keeping a clean desk and a clean office and an organised area is, is respect for my environment because I'm, I'm trying to keep up.*

4.3.3 The Development of a Respect for People Diagram

The focus group participants offered to draw a diagram as a way to represent the various meanings of Respect for People. They described the diagram in the following manner.

> *Participant Eight: I would do a big bubble over everything and write 'Self.'*
>
> *Participant One: I would rank 'Others' as 1, ah, probably 'Work' is 2, 'Environment' is 3, in that order. Self-respect for others, self-respect as far as work and how it gets done, and the third one would be the environment, keeping the place clean. But, if you have all three in, in, in any order, you're good to go.*

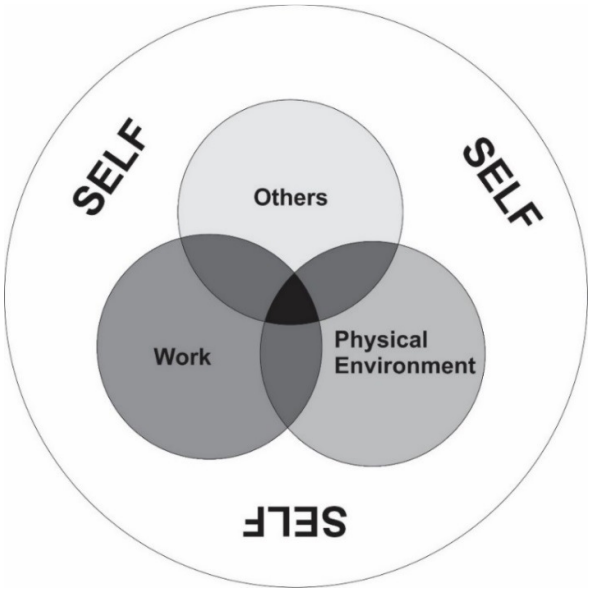
Participant Five: Well, they kind of feed off, off each other, eh?

Participant Eight: That's what I'm saying, right? Self basically includes all of that. My idea was, this is self, and this, others, right? Work, environment all linked together within that self bubble. They're all important to, they're all linked, three linked together but they're all important to the self. Actually, instead of that, probably it would be more like this, right (drawing another picture of the three essences of other, work, environment linked together like the Olympic rings logo) inside of the bubble. Because they're all connected inside out.

Participant Five: I, I agree that I think, they just, I think they're all part and parcel of the same, the same sort, the same thing, you know.

The following figure represents the diagram offered by the focus group which was made up of four of the original participants. The circle of *Self* was a large circle encompassing the three smaller circles of *Others*, *Work* and *Physical Environment*. The three smaller circles intersected in the middle (as indicated by the shading) to demonstrate the overlapping influence that one, two or all three of the inner concepts each could have with each other. The large circle of *Self* was considered foundational to the notion of Respect for People, so the circle of *Self* was drawn to encapsulate, or hold within, the three inner circles.

Figure 6 - A Diagram of the Phenomenon of Respect for People



4.3.4 A Summary of the Respect for Self Core Concept Data

The data presented in this section provided a deep and rich account of the meaning of *Respect for Self* for employees. Interpretation of the data suggested that the core concept of *Respect for Self* included the several dimensions of *Personal Standards*, *Believe in What You Are Doing*, *Family Values*, *Respect for Self-Fluctuates*, *Accountability* and *Confidence in What You're Doing*. Participants believed *Respect for Self* to be foundational to the other three core concepts of respect. There was evidence that a dimension from any of the inner circle concepts could interact with a dimension from the outer *Respect for Self* bubble. For Participant Three, his notion of *Respect for Self*, particularly the dimension of *Respect for Self Fluctuates* identified in section 4.3.1.4 could be influenced by other dimensions of respect found within the inner core concepts such as the *Respect for the Work* core concept dimension of *Communication* found in section 4.2.2.2.10 and the *Respect for One's Surroundings* core concept dimension found in section 4.2.2.4.1.

Additionally, the rich narrative of both the interview and focus group data suggested support for Schein's (1992) Multi-Level Organisational Culture Model, reflecting the attempt by the participants to describe the beliefs, perceptions and feelings that made up their meaning of Lean and Respect for People. The significance of these findings and their contributions to the Lean literature is discussed in the next Chapter.

4.4 Peer Lean Practitioner Focus Group Data

A focus group made up of three peer Lean practitioners was conducted to sense-check and clarify the findings interpreted from the participant interviews and participant focus group. It was important to explore the relevance of the thematic interpretation of the data and the conceptual model with practitioners in the field. The three practitioners were co-workers at the company through which I have conducted my Lean consulting work on a part-time basis for the past eight years. Practitioner One was the president of his consulting company. Practitioner Two was a senior consultant that I had, on occasion, worked with in the past. Practitioner Three was a senior consultant that I met for the first time for the focus group session.

Section 4.4.1 provides some reflection on the data by the members of the group. This is followed by comments on the relevance of the study findings for the practitioner group. Section 4.4.2 offers data from the peer practitioner focus group in support of a possible core concept of *Thinking Differently* for the phenomenon of Lean.

4.4.1 Peer Lean Practitioner Focus Group Reflections on the Research Findings

The peer practitioner focus group discussion commenced with the question 'Do the findings resonate with you, and if so, why˚' Peer Practitioner Three commented that he had not thought about the numerous meanings of Respect for People that could exist amongst the employees of companies he consulted with.

> *We see this word respect, and we whole-heartedly, yes, respect, absolutely. We may gloss over that, and it wasn't until I actually started reading your stuff, there's so many dimensions to this. If we asked teams, say, please spend ten minutes and list some dimensions of respect for self, respect for others, respect for your work and respect for the environment, this is actually fairly comprehensive. There's so many dimensions to it I can't assume that I know what it actually means, other than it's a good thing. And so, what, what can I take away as, as a practitioner, is that respect has many more dimensions than I was admitting. It's a very multi-faceted thing, this respect. I can't gloss over it, and just say to the owner, or the general manager, or the supervisor, show more respect, right? Sometimes you have to hear from the team what that means for them.*

Peer Practitioner Two liked the fact that the study focused on the human side of Lean. He was interested in the types of behaviours employees and management should demonstrate in a Lean company. He felt the findings were in line with his own perspective of Lean, although he commented that he was not often asked by his clients to focus on the human aspect of Lean.

> *I like the fact of what you've ah, captured is a lot about people - being, embracing the human side of it too, ah, which is one of my passions, even before we ever went to Lean and all that stuff. That part I really liked about it. It's consistent with my understanding. For we're all working within a technical system, and it's the people that's gonna make a difference. And ah, for that reason, I thought that ah, it was right on with the ah, breakdown of ah, 'Humanity.' Team leaders often fail to transfer that ownership with some way of measuring it, how to manage their surroundings effectively without being punitive when you're addressing*

something that doesn't conform to what was agreed to, OK? So, that part was pretty good. You address several times here about the complexity. One of the worst areas of failure in my opinion in the North American world is in that part, OK? The behaviours have not been aligned to what we want from the people. We're missing the boat.

Peer Practitioner One found the rawness of the data interesting. He was struck by the finding that the participant interview data reflected only a positive employee experience with Lean. From his lived experience of Lean, he could recall numerous experiences with employees citing negative connotations associated with Lean methodologies.

In reading the material I thought, the, rawness of the data was interesting. I like to hear individuals' takes on what they think Lean is about. Each person had their own experience of it. I was struck that all of them had had a positive experience and a link to at least some of the concepts of Lean. In my experience, and I'm sure the other practitioners have had similar experiences where you've got people in the room that do say, 'We did Lean once and a lot of good that did us, you know. The company went out of business' or, 'I got laid off.' Um, so they, they've connected Lean activity to, ah, an experience. And, you know, albeit they are fewer and further between now-a-days, it was very prominent ten, fifteen years ago. I think the popularity of continuous improvement and, and, or Lean speak, probably has gotten a little bit better. That people have had more good experiences to offset some of the bad experiences. But I think it's still continues out there for some that they, they have had, ah, difficult experiences with continuous improvement for any number of reasons.

When asked about the usefulness of a qualitative approach to Lean and Respect for People, peer Practitioner Two felt that both a qualitative and quantitative approach would be helpful to him when examining the impact of Respect for People in a Lean implementation.

The data was good from that point of review, and I read, it's almost like a story, listening to people, what they were saying. What would ah, complement that is, still can be quantitative with that. And it's by having ah, the rate by which the person is closest to achieving that goal of ah, the soft skills part, OK? And, again, we had that long time ago which was that, what do you call it, the spider web thing, that says you want to be ah, able to be at a one, for example. That means you are good at everything, versus, five, you've got work to do. So, it can be quantitative that way, although it's not a dollar element but rather, what's your goal on this. For example, if you get, more widgets, if you have less rework, that's measurable. But the other element, is still measurable from the

point of view, if you have a target at the beginning of where you're here right now, and where you want to go on your improvement, right? So, that can be done, and you've got some stuff there, that if we know up front what constitutes a one versus a five, then you can easily ah, plot it, and say, well hey, your aspiration is to be there, and yet what we're finding is you're over there. That would be one way to quantify it.

Peer Practitioner One had no concerns with the qualitative nature of the findings. He felt it fit his company's way of consulting with clients to improve Lean outcomes.

I had no concerns with the qualitative nature of the, the material. In, in fact, I think it fits our model in, again, some of our leadership programs where we talk about the difference between leadership, management ah, and coaching separately. But the leadership and management, to me, leadership is the qualitative stuff. Are we moving in the right direction? So, I don't know how you would measure that, other than to say we've set up a direction, we've got a vision and we appear to be moving that way. It feels like we're moving that way, the behaviours are aligned with that, and people are doing the things that would suggest we're moving that direction. The management side to me is the quantitative side which says, have we moved far enough. fast enough? So, the manager is the one who decides whether you are achieving objectives and goals and ah, hitting expectations. The leader is ah, is looking to see, are, are we moving in the right direction, ah, and then we have to balance those two, ah, tasks.

Peer Practitioner Three was also comfortable with qualitative findings and used a sports analogy as an example of how both a qualitative and quantitative approach could work for Lean.

Um, I don't require quantitative evidence to tell me if this is either on track or beneficial for that um, the qualitative stuff is, is good enough. And the example I would use, if I was coaching someone to run faster, right, I would be measuring how quickly they're doing whatever distance they're running. That's the, the, the quantitative measurement. If I'm trying to figure out how to help them, it might be, they might need nutrition, they might need orthotics, they might need better motivation, they might need more practice, more technique. I'll use my judgement on, you know, is it a, is it a trust thing, is it a, um, respect thing that's keeping this team together.

4.4.2 A Potential Lean Core Concept of Thinking Differently

From their Lean lived experience, the three Lean practitioners offered an additional perspective regarding the findings of the study and the phenomenon of Lean. For example, peer Practitioner One, when asked what Lean meant to him, responded that it meant thinking differently.

> *What does Lean mean to me, so, to me it's, it's very much connected to thinking differently. We're trying to slow down the, the process. Whether it's a process of implementing 5S, or whether it's a process of getting team members to behave differently to enable ah, a tool or a process to be implemented, we're trying to teach them how to think differently about the work or about the surroundings, about the customer. So, the, the thinking differently I think to me, it feels like an overriding concept perhaps.*

The focus group felt that an additional core concept of *Thinking Differently* could be helpful as a foundational core concept to support the other three Lean concepts of *Humanity*, *A Way of Doing Things* and *Taking Care of One's Surroundings* discussed in section 4.2.1. This was similar to the employee focus group which suggested that the core concept of *Respect for Self* supported the other three Respect for People core concepts. The dimensions of *Internal Customer/Supplier Focus*, *Think Like an Owner*, *Extending Trust* and *Leadership* were identified by this focus group as important to the *Thinking Differently* core concept.

4.4.2.1 Internal Customer and Supplier Focus

When asked to provide more detail on what the core concept of *Thinking Differently* might look like, peer Practitioner One offered the following perspective on 'who is my customer' and 'who is my supplier.' For him, the customer was not just the company's external customer. Suppliers were not just external to the company. The concept of the customer and supplier could also be internal. A customer was the person in the next step of the process that you handed your work to. A supplier was someone who gave work to you as the next step in the process.

I talk an awful lot with participants about the customer/supplier relationship. Not the customer as in the company's customer, but who is your customer? Who are you a supplier to? Around this, you know, each person is a supplier and customer of, of each other, throughout the process. Everyone is a customer and a supplier within their piece of the process.

For peer Practitioner Two, thinking differently about the internal customer could be summed up by asking a simple question.

Just the ah, one simple question which you talked about, as the, your internal customers. A simple question like 'Do you know what the needs of the people that you serve, that you give stuff to, whether it's product, information, do you really know what their needs are?

4.4.2.2 Think Like an Owner

Peer Practitioner One felt that thinking differently meant employees thinking like they were owners of their piece of the business.

Get individual employees thinking like they are an owner/operator of their little piece of the business. The work that they are responsible for, somebody is counting on being done well, on time, at the ah, with the least amount of waste.

4.4.2.3 Extending Trust

Peer Practitioner Three expressed the notion of *Extending Trust* as a dimension of the core concept *Thinking Differently*. The notion of trust was also an important *Respect for Others* dimension identified in section 4.2.2.2.7.

We're thinking differently and I listed it, the customer, the work, our surroundings, you know, it ties into those but it's thinking differently about the customer and your relationship with the other people, cause we're asking people to trust a lot more so that they actually find better ways to do things. Which, which means you need to extend trust. If I said to someone, you're working day shift, I'm working nights. Please organise our tools, right? I have to trust that he's gonna to come up with a way that works for both of us. And if doesn't, we have to have enough trust to go back and say 'Dude, you, you missed the mark on this one thing. Can we modify it tomorrow?'

4.4.2.4 Leadership

All three peer practitioners felt that leadership was a key dimension to *Thinking Differently*. When asked 'Is there anything you feel we haven't covered°' the Lean practitioners pointed to leadership. Leaders needed to demonstrate the same behaviours as employees to facilitate improved Lean outcomes. Implementing tools was the easier part. Having upfront discussions regarding the behaviours of the leadership team was much more difficult.

> *Peer Participant One: It's easy to teach the tools. To me those are the easy things, the technical details. Here's how to do 5S. Um, but to get people to be successful with it really takes a holistic approach on the leadership, the respect for each other, the teamwork.*
>
> *Peer Practitioner Two: I don't see anything in here too much, maybe the ah, the employees you have interviewed have addressed that, about how they view the behaviours by their leaders that is counter-productive to them. What are the behaviours, right? So, well we found, in the, even after six years, a lot of the leaders still didn't understand it because we as an organisation from HR down, did not spend time to help the leaders understand that behaviours that you manifested right now, how is going to be received by the people you work with, and that kind of stuff. When you're working with groups of people, we haven't done justice in all of these Lean tools in focusing upfront with the leaders. 5S is ah, simple to implement but it's difficult to keep it where you were when you started, so we've got to find a way to a better job in that area.*
>
> *Peer Practitioner Three: My overall my thought really to the report is the role of the leadership, and, and I mean that kind of broadly, because everyone has potential or the requirement to be the leader for their part of the process.*

4.4.3 A Summary of the Peer Lean Practitioner Data

The data presented in this section was developed from the opportunity to sense-check the findings of the study with peer Lean practitioners. The depth and complexity of Respect for People surprised them. The group believed a foundational core concept of *Thinking Differently* would be a helpful contribution to the phenomenon of Lean findings. The practitioner group suggested the dimensions of *Internal Customer and Supplier Focus*, *Think Like an Owner*, *Extending Trust* and *Leadership* for the proposed

additional concept. The significance of these findings and their contributions to the Lean literature is discussed in the next Chapter.

4.5 Chapter Summary

This chapter has documented the rich and varied meaning employees attribute to the phenomena of Lean and of Respect for People. The data were developed from participants working at every level of the organisation – front line workers, supervisors and managers. The data presented a collective, or shared, meaning of lived experience for Lean and Respect for People at a specific point in time (May to December 2015) for the group of participants. Some participants offered their view of lived experience from employment at the case company while others offered experiences from previous employment and current employment at the case company. The findings paint a complex and interconnected picture of meaning within each phenomenon, and between these two phenomena. The data suggested employees could be a source of wealth of lived Lean and Respect for People experience. Although no one participant's data incorporated the dimensional entirety of either phenomenon, collectively the participants contributed to a diverse and holistically shared cultural meaning of Lean and Respect for People. While only one participant explicitly connected the two phenomena in his meaning of Lean and of Respect for People, the findings demonstrated an implicit interconnectedness of meaning between Lean and Respect for People for the other participants. Each phenomenon seemed to benefit from the existence of the other. Finally, the data suggested that the employee perspective could be an important source of reference for enhancing the implementation and sustainment of Lean initiatives within the company.

From the Lean practitioner perspective, the practitioner focus group reflected that the findings resonated with their lived experience of Lean, and that the conceptual model could be useful in their daily practice. It reminded them that Respect for People was an underutilised or often taken-for-granted area of Lean implementation. The practitioner focus group advocated for a proposed additional core concept of *Thinking Differently* for the phenomenon of Lean diagram. They also felt that future research into Respect

for People should include quantitative data as another way to measure the impact of Respect for People on enhancement of Lean outcomes.

While a number of researchers in the Lean literature identified the notion of Respect for People as important to successful Lean implementation (Kaltenbrunner et al., 2017, Losonci et al., 2017, van Dun et al., 2017, Coetzee et al., 2016, Gupta et al., 2016, Snyder et al., 2016), little evidence could be found on employee held meaning of Lean and Respect for People, and the impact Respect for People might have on facilitating Lean implementations from the employee perspective. The data presented in this chapter reveals a complex notion of Lean and Respect for People held my employees. The data also suggest employees believe that the two notions are implicitly linked, inferring that Respect for People does influence Lean implementation. In the next chapter, a discussion on the themes of meaning is presented and a conceptual model pictorializing the employee held meaning of Lean and Respect for People is offered.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter provides a discussion on the key findings of the study. From the lived experiences of eleven participants drawn from all levels of the organization, data revealed in the Findings Chapter point to a number of key findings. The collective shared experiences of front line workers, supervisors and managers generated findings that offer a perspective of Lean and Respect for People with implications for theory and practice. These findings are discussed below. Further, diagrams for Lean and Respect for People are offered as a way to visually capture the complexity and depth of each phenomenon. A conceptual model is then presented as a way to depict the interconnected of the Lean and Respect for People phenomena.

5.2 Lean and Respect for People are Complex from the Employee Perspective

Findings from the data suggested that the phenomenon of Lean was complex from the employee perspective. While a number of researchers, as listed in Appendix B, suggested that Respect for People was important for improving Lean outcomes, none offered a rich and deep analysis as was provided in this study. Even Taiichi Ohno, the founder of the Toyota Production System, upon which Lean is based, failed to provide tangible evidence of what Respect for People was within his organisation.

Themes of meaning for Lean were grouped holistically into three core concepts of *Humanity*, *A Way of Doing Things* and *Taking Care of One's Surroundings*. Each of these core concepts contained several dimensions which helped to define the employee meaning of each core concept. A summary of the core Lean concepts and associated dimensions was presented in Table 9 at the beginning of Chapter Five. Employees implicitly believed that phenomenon of Lean core concepts and their related dimensions could influence or be influenced by each other. That is, participants often referred to two, or sometimes three, dimensions within one concept or across two or even all three of the concepts when describing their meaning of Lean. Rather than a simple definition of the elimination of waste, participants, through their articulation of their lived

experience of Lean, described a more complex notion of Lean. Interpreting the employee meaning of Lean led to a mosaic of shared meaning made of many moving parts.

The notion of Respect for People was equally complex from the employee perspective. Themes of meaning were grouped holistically into four core concepts of *Self*, *Others*, *Work* and *Physical Environment*. Each of these core concepts contained several dimensions which helped to define the employee meaning of the core concept. A summary of the core Respect for People concepts and associated dimensions was presented in Table 10 at the beginning of Chapter Five. In similar fashion to the Lean concepts, participants often referred to two, or sometimes three, dimensions within one concept or across two or three of the concepts when describing their meaning of Respect for People.

A deep and rich understanding of meaning for both Lean and Respect for People provides a new contribution to the Lean literature. Although the Lean literature review suggested that a number of elements were required to successfully implement Lean methodologies, this detailed study of Respect for People presents an opportunity to re-introduce the concept of Respect for People as another way to potentially enhance the implementation of Lean methodologies within an organisation. The complexity of employee meaning of both Lean and Respect for People suggests that the notion of the concept of *Humanity* (socio) and its potential impact should be carefully considered in relation to the work (technical) of implementing Lean methodologies.

5.3 Employees View Lean and Respect for People as Interconnected Phenomena

The Lean literature review offered evidence of a high failure rate with respect to implementing Lean methodologies. As noted in Chapter Two, Bhasin (2012) suggested in his paper '*Prominent Obstacles to Lean'* that fifty per cent of survey respondents listed cultural issues as a barrier to Lean implementation. Both Bhasin (2012) and Atkinson (2010) argued that underlying every Lean failure was a fundamental issue of corporate culture and change management (Bhasin, 2012, Atkinson, 2010). Instead of using just a

tools and techniques approach, Lean should be an adaptable, holistic system (Langstrand and Drotz, 2016, Albliwi et al., 2015, Hozak and Olsen, 2015, Samuel et al., 2015, Ringen et al., 2014). There should exist both a culture of continuous improvement and a culture of employee engagement (Lam et al., 2015, Huehn-Brown and Murray, 2010, Al Smadi, 2009, Liker and Hoseus, 2008, Marin-Garcia et al., 2008, Choi and Liker, 1995).

Evidence in the data presented in Chapter Five suggested that a holistic interconnectedness did exist between the phenomenon of Lean and the phenomenon of Respect for People. Understanding that employees implicitly link the notions of Lean and Respect for People is an important finding relative to the academic literature. Shared meaning of Lean for the participants was not just a process of implementing methodologies. Instead, it was an approach that included the notion of respecting the people expected to do the implementing. For the participants, Lean was not practiced in isolation from the notion of Respect for People. They practiced a back and forth between both phenomena in their work lives. Respect for People appeared to enhance, albeit implicitly, the implementation of Lean methodologies, and vice versa. Many examples could be found in Chapter Five demonstrating the interconnectedness of the two phenomena, with some participants describing benefits to both the employee and the organisation. This evidence provides support for the perspective that Lean should be implemented in a holistic manner.

5.4 Lean is Not Necessarily Mean to Employees

Some studies in the Lean literature revealed that while Lean methodologies may positively impact an organisation's operations, these same methodologies could also negatively impact the working life of employees. The results of this study found that Lean was not necessarily mean for employees. Lean did not have to be a win/lose proposition where the company wins improved efficiencies at the expense of a decline in the quality of employee work life. Instead, participants articulated that Lean could be difficult to implement, a *Humanity* core concept dimension discussed in Chapter Five. Participants also provided data that lean is a good thing, another *Humanity* core concept dimension expressed in Chapter Five. The absence of a negative impact of Lean

methodologies in this study offers an alternate perspective from that of other researchers in the Lean literature who found that Lean is mean. Participants offered a perspective of Lean that could be beneficial to both themselves and the company.

5.5 Phenomenological Interviewing Reflects Some Respect for People Dimensions

Sevier (1992) argues that a key to encouraging employee engagement and to overcoming employee resistance to change is to create an atmosphere that facilitates the introduction of Lean before beginning the actual implementation process (Sevier, 1992). Sevier (1992) also suggests that a key to making the transition to Lean is in the employee's understanding of the JIT philosophy, goals and implementation process. Sevier (1992) concludes that offering employees an opportunity to voice their concerns and to share opinions, discuss alternatives, improvements and problems facilitates a sense of ownership of Lean methodologies. Employing a phenomenological interviewing approach as a practice of understanding Lean Respect for People within an organisation could be perceived by some employees as an act of promoting some of the Lean and Respect for People dimensions identified in Chapter Five, namely *Listening*, *Inclusiveness*, *Respect Goes Both Ways*, *We Can Contribute* and *Acknowledging Employees' Experiences*, thereby creating an opportunity for an organisation, in an applied manner, to encourage the notion of Respect for People.

5.6 Schein's Multi-Level Organisational Culture Model as an Appropriate Framework for Examining Lean Culture

Schein's (1992) Multi-Level Organisational Culture Model depicted in section 2.8 of Chapter Two was used as a starting point for the examination of the phenomena of Lean and Respect for People. Schein (1992) argues that organisational culture can be analysed at three levels, with the term level referring to the degree to which a cultural phenomenon is visible to the observer. The deepest level may be considered the essence of culture. Exploration of this deepest cultural level at the case company revealed a complex and rich meaning of Lean and Respect for People. A successful

application of Schein's (1992) multi-level organisational culture model lends support to those researchers who argue in favour of a holistic approach to Lean that includes both social and technical elements of work (Dombrowski and Mielke, 2014, Mostafa et al., 2013, Marksberry et al., 2011, Shah and Ward, 2007, Brown et al., 2000, Dankbaar, 1997, MacDuffie, 1995).

5.7 Evidence of a Phenomenon of Disrespect for People

While the intent of this study was to examine the phenomenon of Respect for People within the context of Lean, the data collected also pointed to another phenomenon, that of Disrespect for People. Participants spoke of their Lean lived experiences of feeling disrespected. While understanding and developing a shared meaning of Respect for People could contribute to the enhancement of Lean outcomes, the notion of Disrespect for People was voiced by participants as having the opposite effect on Lean outcomes. The stated boundaries of this study precluded a closer examination of this phenomenon, but an exploration of Disrespect for People may provide another avenue to assess the impact organisational culture may have on the implementation of Lean methodologies. Examination of this phenomenon could provide corroborating data either qualitatively or quantitatively to support the findings of some researchers who contend that while systematic waste elimination may improve the performance of an organisation, it can be harmful to workers (Carter et al., 2011, Bruno and Jordan, 2002, Adler et al., 1997, Rinehart et al., 1997, Babson, 1993).

5.8 Interviewing Reveals Existing Employee Lean Knowledge and Work Experiences from Previous Employment

While the meaning of Lean by some participants included insight gained only at the case company, other participants offered meaning tempered by experiences from previous places of employment. For some, their Lean lived experience acquired elsewhere was extensive in both training and practical application. Surprisingly, this was not known to the management team of the case company. This suggests opportunities exist to make use of employees' previous Lean training and experience for the benefit of the case

company. More than half of the participants had gained Lean experience prior to employment at the company. This supports the argument by those researchers that Lean is a popular strategy for organisations to improve performance (Delisle and Freiberg, 2014, Dora et al., 2013, Chowdary and George, 2012, Jackson and Mazur, 2011, Liker and Morgan, 2011, Hummer and Daccarett, 2009, Joosten et al., 2009, Ballé and Régnier, 2007, Emiliani, 2005). This finding provided new information for the case company about the depth of Lean knowledge and perspicacity already available within its workforce.

5.9 Respect for Self is Foundational to the Other Respect for People Core Concepts

Interestingly, members of the focus group believed that core concept of *Respect for Self* was foundational to the other Respect for People core concepts of *Respect for Others*, *Respect for the Work* and *Respect for One's Surroundings*. While these themes looked outward from the employee perspective, the notion of *Respect for Self* was inward looking. Only by articulating and understanding one's own beliefs of *Respect for Self* could one hope to support and engage in the other outward facing notions of respect. While Quaquebeke and Eckloff (2010) define one view of respect as 'a person's attitude towards other people' (Quaquebeke and Eckloff, 2010:344), the finding of *Respect for Self* as foundational to the other core concepts of Respect for People suggests that a definition of respect could be expanded to include an attitude held within oneself as well as an attitude towards other people.

5.10 A Diagram for the Phenomenon of Lean

From the analysis of the interviews, a diagram, which was later to form the basis of the first part of the conceptual model, was developed to pictorially represent the interpreted data of what Lean meant to employees. Data for the phenomenon of Lean revealed many codes, which were grouped into patterns. Patterns in turn were grouped into three themes. For the phenomenon of Lean, the following table provides an example of codes grouped for three patterns of 'Inclusiveness,' 'Group Activities' and

'Lean is a Good Thing' leading to the final theme of 'Humanity.'

Table 13 – Data Analysis Example

Data Analysis Example			
Codes Assigned to Data	Findings Chapter	Pattern	Theme
Getting everybody involved.	Section 4.2.1.1.1	Inclusiveness	Humanity
A solution that will work for everybody.			
It's always a team approach to solving an issue.			
Working together as a group to come up with better methods of efficiency.	Section 4.2.1.1.2	Group Activities	
Team-based environment.			
I like to be part of a team.			
Lean is a good thing.	Section 4.2.1.1.3	Lean is a Good Thing	
It was a win-win. Everyone felt good.			
It's a good concept overall.			

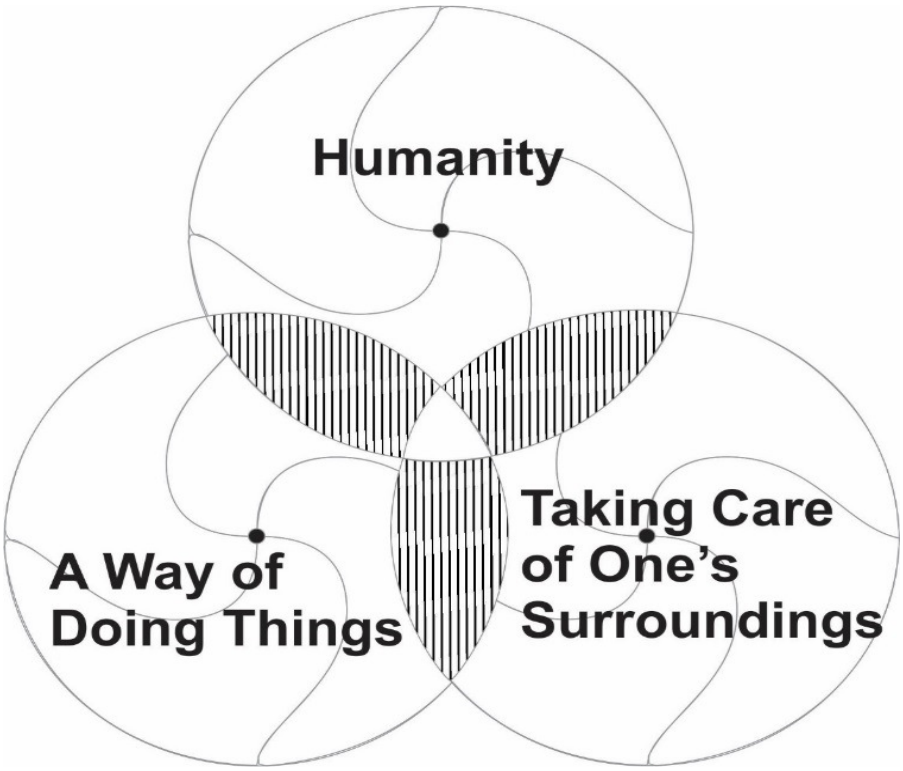
The next table demonstrates the data analysis link to the dimensions and core concept of Humanity in the Lean diagram shown in Figure 7 on page 121. The patterns identified in the above table (13) become dimensions and the themes become concepts in the Lean diagram as illustrated in the next table (14).

Table 14 – Data Analysis Link to Lean Diagram

Data Analysis Link to Lean Diagram		
Supporting Data For Dimension	Dimension	Concept
Getting everybody involved.	Inclusiveness	Humanity
A solution that will work for everybody.		
It's always a team approach to solving an issue.		
Working together as a group to come up with better methods of efficiency.	Group Activities	
Team-based environment.		
I like to be part of a team.		
Lean is a good thing.	Lean is a Good Thing	
It was a win-win. Everyone felt good.		
It's a good concept overall.		

The Lean diagram begins with a circle on top that represents the core concept of *Humanity*. Contained within this concept are the seven dimensions of *Inclusiveness*, *Group Activities*, *Lean is a Good Thing*, *Eliminating Chaos and Stress*, *Difficult to Implement*, *Buy-in* and *Openness and Transparency*. Next, the circle on the bottom left represents the core concept of *A Way of Doing Things*. Contained within this concept are the four dimensions of *Efficiencies*, *Processes*, *Organising and Managing* and *Waste*. Lastly, the circle on the bottom right represents the core concept of *Taking Care of One's Surroundings*. Contained within this concept are the three dimensions of *Cleanliness*' *Having Time to Clean* and *A Place for Everything*. The diagram as depicted in figure 10 reflects a holistic view of the multiple participant meanings of Lean and may be helpful to both practitioners and employees.

Figure 7 - A Diagram for the Phenomenon of Lean



Adapting Vagle's (2014) model of Heideggerian philosophy of interpreted meaning as presented in Figure 2 of Chapter Three section 3.4.3, the core concept rings, and the dimensions within each ring, are in constant circular motion. That is, employee meaning is not static. It can be influenced by one or more dimensions belonging to each core concept of the Lean phenomenon, as represented by the shaded lines at the intersection of each circle.

5.11 A Diagram for the Phenomenon of Respect for People

From the analysis of the interviews and focus group data, a diagram, which was later to form the basis of the second part of the conceptual model, was developed to pictorially represent the interpreted data of what Respect for People meant to employees. Data for the phenomenon of Respect for People revealed many codes, which were grouped

into patterns. Patterns in turn were grouped into three themes. For the phenomenon of Respect for People, the following table (15) provides an example of codes grouped for three patterns of 'Inclusiveness,' 'Group Activities' and 'Lean is a Good Thing' leading to the final theme of 'Respect for Self.'

Table 15 – Data Analysis Example

Data Analysis Example			
Codes Assigned to Data	Findings Chapter	Pattern	Theme
Everyone has their own set of standards.	Section 4.3.1.1	Personal Standards	Respect for Self
You have to have a certain level of standards.			
You believe in what you're doing.	Section 4.3.1.2	Believe in What You're Doing	
You have to believe in what you're trying to accomplish.			
That's instilled that you had a family value.	Section 4.3.1.3	Family Values	
That's character, yeah, what he's talking, like, integrity here.			
It's up to the self to carry out those family values.			

The next table demonstrates the data analysis link to the dimensions and core concept of Humanity in the Lean diagram shown in Figure 8 on page 124. The patterns identified in the above table (15) become dimensions and the themes become concepts in the Respect for People diagram as illustrated in the next table.

Table 16 – Data Analysis Link to Respect for People Diagram

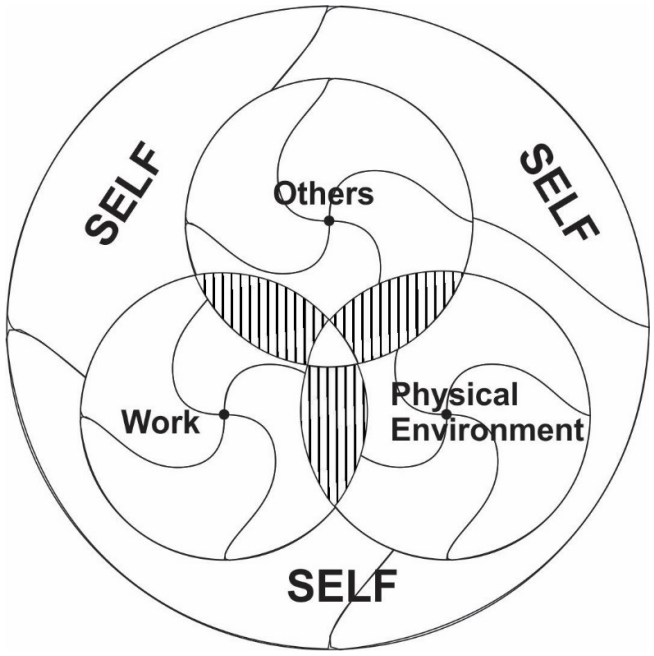
Data Analysis Link to Respect For People Diagram		
Supporting Data For Dimension	Dimension	Concept
Everyone has their own set of standards.	Personal Standards	Respect for Self
You have to have a certain level of standards.		
You believe in what you're doing.	Believe in What You're Doing	
You have to believe in what you're trying to accomplish.		
That's instilled that you had a family value.	Family Values	
That's character, yeah, what he's talking, like, integrity here.		
It's up to the self to carry out those family values.		

Again, adapting Vagle's (2014) model of Heideggerian philosophy of interpreted meaning, the manifestation of meaning of the phenomenon of Respect for People in the following diagram is depicted as three inner rings enclosed within a large circle. The first part consists of the three inner rings of *Respect for Others*, *Respect for the Work* and *Respect for One's Surroundings*. These three rings are enclosed in a larger circle of *Respect for Self*. The inner linked rings represent the themes of meaning of Respect for People developed from the data. Within each ring can be found the dimensions ascribed to each core concept. A summary of the core concepts and dimensions was presented in the form of Table 10 found in Chapter 5 section 5.1. The core concept of *Respect for Others* contains the ten dimensions of *Appreciation*, *Respect Goes Both Ways*, *Fairness, We Can Contribute*, *Acknowledging Employees' Experiences*, *It's Expected*, *Trust*, *Everyone Makes Mistakes*, *Listening* and *Communication*. The concept of *Respect for the Work* contains the three dimensions of *Pride*, *Discipline* and *Structure*. The core concept of *Respect for One's Surroundings* contains a single dimension of *Respect for One's Surroundings*.

An emergent theme of *Respect for Self* was further explored in a focus group. This group contributed suggestions for a core concept of *Respect for Self* and advocated this

concept act as the foundation and support for the manifested meanings of *Respect for Others*, *Respect for the Work* and *Respect for One's Surroundings*, and therefore enclosed the three inner concepts in a big bubble. The core concept of *Respect for Self* contains the six dimensions of *Personal Standards*, *Believe in What You're Doing*, *Family Values*, *Respect for Self Fluctuates*, *Accountability* and *Confidence in What You're Doing*. These core concept rings, and the dimensions with each ring, are in constant circular motion. That is, employee meaning is not static. It can be influenced by one or more dimensions belonging to each core concept of the Respect for People phenomenon, as represented by the shaded lines at the intersection of each circle. Figure 11 depicts this diagram.

Figure 8 - A Diagram for the Phenomenon of Respect for People

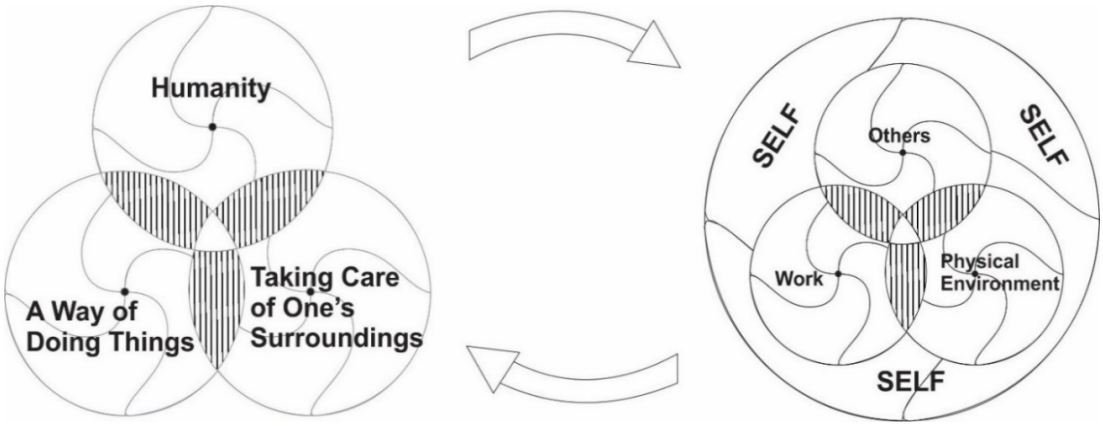


5.12 A Conceptual Model for the Interconnectedness of the Lean and Respect for People Phenomena

As the above diagrams were being formed it became possible to develop a conceptual model which could demonstrate the interconnectedness of the phenomenon of Lean and Respect for People. This model is shown in the figure below. On the left hand-side of the model are the three core concepts of the employee meaning of Lean. The three core concepts are 'Humanity,' 'A Way of Doing Things' and 'Taking Care of One's Surroundings.' On the right-hand side of the model are the four core concepts of the employee meaning of Respect for People. The four core concepts are 'Self,' 'Others,' 'Work' and 'Physical Environment.'

The arrows from right to left and left to right between the Lean and Respect for People concepts represent the interconnectedness of the phenomena. The interconnectedness of the two phenomena allow for the dimensions in each of the core concepts of each phenomenon to influence or be influenced by the core concepts and dimensions of the other phenomenon. All core concepts and dimensions of both phenomena are in constant motion, with each core concept and dimension potentially passing through a core concept of the other phenomenon as employees attempt to derive meaning from their lived experiences. In this way, employees can interpret Lean and Respect for People in various combinations, drawing upon lived experience to shape their individual dimensions of meaning, and to articulate their manifestation of meaning framed within a temporarily momentary-freezing point in time.

Figure 9 - A Conceptual Model of the Interconnectedness of Lean and Respect for People Phenomena



5.13 Chapter Summary

Ohno's (1988) premise of Respect for People has been, for the most part, passed over since the introduction of Lean to the Western world in the 1980s in favour of the study of the Lean methodologies themselves. By focusing too heavily on the tools and techniques of Lean, academics and practitioners may be missing an opportunity to enhance the outcome of Lean implementations. A key contribution to both theory and practice has been the re-visiting of the notion of Respect for People in relation to Lean and to highlight its potential to favourably enhance the implementation of Lean methodologies. ***The analysis and interpretation of the lived experiences of the participants at the case company has provided an alternative perspective on the implementation of Lean***. The research conducted for this study and the resultant conceptual model offers a potentially helpful element for enhancing Lean methodologies. The literature review revealed Lean to be a complex, and often confusing area of study with conflicting notions of naming conventions, definitions and epistemological positions. Employees also described a complex picture of meaning for Lean and Respect for People from their perspective. Their rich and thick narrative paints a complex and varied meaning of Lean and Respect for People where individual perceptions weave together to form a detailed picture of shared meaning. For

employees at the case company, the notions of Lean and Respect for People were implicitly interconnected. Concepts and dimensions from one notion could influence the concepts and dimensions of the other notion.

While Lean is not necessarily mean to employees, it could be, from the employee perspective, difficult to implement. The use of in-depth interviews could be a reflection of some of the Respect for People concepts and dimensions identified in this study. The data provided evidence of a phenomenon of Disrespect for People, which may actively work against the implementation of Lean methodologies. Further, participant interviews revealed existing employee Lean knowledge from previously held jobs at other companies. For some employees, Lean lived experiences acquired elsewhere was extensive in both training and practical applications, presenting an opportunity for the Lean practitioner to tap into these experiences for the benefit of the organisation. Finally, the notion of Respect for Self was foundational to employee held meaning of Respect for People. Only by articulating and understanding one's own beliefs of Respect for Self could one hope to engage the other concepts of Respect for Others, Respect for the Work and Respect for One's Surroundings.

In the next chapter the thesis is brought to a close by a summary of contributions to both theory and practice, and areas for further research into the notion of Respect for People are suggested. The study's strengths and limitations are then discussed. The thesis concludes with recommendations for research and for practice.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This thesis specifically explored the employee meaning of Respect for People in the context of a manufacturing company implementing Lean methodologies. Few would disagree that using less of everything to produce exactly what is needed, when it is needed, and in the quantities needed by the customer is of benefit to producers and consumers and society in general. Lean production techniques are now assisting companies in reducing their global footprint through energy reduction initiatives, material reduction and landfill waste reduction. Lean methodologies are being applied to critical service industries such health care, as an example, where resource limits are experienced at all levels of health care process. These bottlenecks take form in such resource constraints as hospital beds, disciplinary expertise of doctors and nurses, equipment and emergency care visits.

However, a significant problem was evidenced in the Lean literature. Few organisations are able to implement Lean methodologies for any length of time. Sustaining Lean methodologies has been documented by Lean researchers to be elusive (Nicholas, 2016, Chakravorty and Hales, 2016, Mirdad and Eseonu, 2015, Jadhav et al., 2014, Dombrowski and Mielke, 2014). While empirical studies have provided a great deal of evidence as to the benefits of Lean techniques to the organisation, the high rate of Lean implementation failures may be due in part to researchers and practitioners alike ignoring Ohno's (1988) premise that the notion of Respect for People as an important ingredient for successfully implementing Lean methodologies. By focusing too heavily on the tools and techniques of Lean, academics and practitioners have missed an opportunity to enhance the outcome of Lean implementations through an examination of employee held meaning of Respect for People on Lean methodologies. A balanced approach to Lean implementation is suggested for enhancing and sustaining Lean implementation. With a careful study of what Lean and Respect for People means to employees tasked with the implementation of Lean methodologies, and a thorough understanding of the tools and techniques themselves, organisations may be better positioned to enhance and sustain Lean. Contributions to theory and practice follows in the next two sections.

6.2 Contribution to Theory

This study has made a number of contributions to theory. Firstly, a conceptual model was developed to depict the complexity and interconnectedness of Lean and Respect for People from the employee perspective. Another theoretical contribution was the rich and detailed explanation of the employee meaning of Lean and Respect for People. Participants offered many examples of implicit connections of core concept dimensions between the two phenomena. A third theoretical contribution to theory was that Lean did not necessarily have to be mean to employees. Participants acknowledged the challenge and difficulty of working with Lean methodologies, but none suggested that Lean practices contributed to a deterioration of work life. On the contrary, some participants felt that Lean methodologies made a positive contribution to both manufacturing process efficiencies and employee work life.

A fourth contribution to theory was that Schein's multi-level organisational culture model was transferable to the study of Lean and Respect for People cultural analysis at the case company. In-depth exploratory interviews aided in identifying what Schein (1992) identified as the employees' unconscious, taken-for-granted beliefs, perceptions, thoughts and feelings of cultural meaning. Additionally, as another contribution to theory, the research data identified the possible existence of a phenomenon of Disrespect for People. Participants identified instances in which they felt disrespected during the implementation of a Lean methodology. Finally, the notion of the concept of Respect for Self as foundationally important to the other Respect for People concepts was a contribution to theory. If individual reflection, understanding and articulation of one's own personal values, beliefs and perceptions did not occur, then respect toward others, the work and the work environment was less likely to happen.

6.3 Contribution to Practice

A conceptual model that depicted the complexity of Lean and Respect for People from the employee perspective is a contribution to practice. The development of a conceptual model provided a visual representation of meaning that could be communicated to all members of the case study company. The influence of the research

methodology used to develop the conceptual model is another important contribution to practice. Practitioners could consider the adoption a phenomenological approach to exploring shared meaning to construct their own diagrams of Lean and Respect for People for their organisations. Moreover, the process of qualitative data gathering and model population by practitioners could exemplify some of the core concept dimensions of the phenomenon of Respect for People. These include the dimensions of *Listening*, *Inclusiveness*, *Respect Goes Both Ways*, *We Can Contribute* and *Acknowledging Employees' Experiences.*

A third contribution to practice was that employees implicitly linked the notions of Lean and Respect for People together. The phenomena were interconnected from the employee perspective. This suggested that the implementation of Lean methodologies should not be practiced in isolation. By developing a cultural model of shared meaning for both Lean and Respect for People, practitioners could pursue an opportunity to draw upon employee lived experience of both phenomena as a way to better enhance their own Lean implementation outcomes. Another contribution to practice was the application of Schein's multi-level organisational culture model to examine and better understand the employee's beliefs, perceptions, thoughts and feelings towards Lean and Respect for People. While the model suggested that the underlying assumptions held by employees were of an unconscious nature, phenomenological interviewing was able to bring these employee cultural dimensions to consciousness via a pool of shared meaning consisting of a model with concepts and dimensions. As a last contribution to practice, employees considered the notion of Respect for Self as foundational to the other Respect for People concepts of Respect for Others, Respect for the Work and Respect for One's Surroundings. Respect is inwards as well as outwards. By helping employees identify their personal values and beliefs, Lean practitioners may be able to influence the development of healthier respect for others, the work, and the work environment.

6.4 Areas for Further Research

It is suggested that a study, using a larger sample group or utilising a number of different environments could be conducted to examine the phenomena of Lean and Respect for

People in more detail. As determined in this study, Respect for People could help facilitate the implementation of Lean methodologies. Identifying, describing and assessing the effectiveness of Respect for People in enhancing Lean outcomes may have significant and positive implications for both the employees and organisations. Whereas the methodology and the conceptual model was developed in the context of a manufacturing environment, testing the methodology and conceptual model in other entities such as government services, education, the military and health care would be avenues of exploration for further research.

The peer Lean practitioner focus group offered another possible core concept for the Phenomenon of Lean conceptual diagram. A further qualitative examination of the core concept of *Thinking Differently* and its associated dimensions could be conducted with the employee participants. Another intriguing emergent theme evident in the interview data was the phenomenon of Disrespect for People. Although this study explored the notion of Respect for People within a Lean context, data also suggested the existence of the notion of Disrespect for People within a Lean context. It appeared that employees believed that Lean initiatives could be derailed by the idea of disrespect inherent in an organisation. The notion of the duality of Respect for People and Disrespect for People may be important to the development of a cultural framework for implementing Lean initiatives. Further qualitative research could explore this concept.

Finally, if some employees have come to understand Lean as mean, as some academic research and the peer practitioner data has suggested, then it is important to study further the impact that the implementation of Lean methodologies has on employees. Further research could examine the longitudinal impact of Lean implementation maturity on the employee notion of Lean and Respect for People. It is important to determine if the concept of lean is mean to employees might be the norm or the exception in Lean implementations. Lastly, longitudinal studies may determine if employee held meaning of Lean and Respect for People changes over time, and whether these changes impact the continued implementation of Lean methodologies.

6.5 Study Strengths and Limitations

Qualitative or quantitative studies have inherent strengths and limitations that need to be recognised. This study has limitations that restricts the generalisability of the findings. It is a qualitative account of employee perception of Respect for People and its impact on implementing Lean within a manufacturing organisation. The research sample was restricted to a single case company and a small data set of eleven interviews. Generalisation of the findings therefore is not practical. However, transferability of the interconnectedness of Lean and Respect for People conceptual model to other organisational contexts is possible. Future studies could be conducted to determine if the conceptual model could be made generalisable.

Without the use of statistical analysis for the determination of significance, it is difficult to quantify the significance of the relationship between Respect for People and any enhancement of Lean methodologies. However, semi-structured interviews in this study provided qualitative evidence that the notion of Respect for People can enhance improved Lean implementation outcomes. Interview data in this study provided rich narrative that pointed to a qualitative construct between Respect for People and Lean in the mind of the employee. Future quantitative studies could provide external validation of a relationship between Respect for People and enhanced Lean outcomes.

Researcher axiology is inherent in this study. The researcher believes that implementing Lean methodologies has positive benefits for the organisation. He is philosophically invested in the principles of Lean and interact daily with his co-workers from this perspective. The interviewees know him in the capacity of a manager active in the promotion of Lean activities. This bias may have caused opportunities to misrepresent some of the data or influence some of the analysis and findings. Additionally, Interviewees may have had some difficulty in adjusting to his role of researcher versus that of a manager. Some may have tried overly hard to give answers they thought the researcher wanted to hear. Others may have been guarded and less candid and self-censored their responses.

For the case company, the Lean journey continued during the development of the study. Momentum was developing to implement various Lean methodologies. New Lean initiatives were creating more experiences for prospective interviewees. It was not

possible to conduct interviews with all the participants at the same time. Interviews were conducted over a nine-month span. Those conducted at a later time in the data collection phase were potentially influenced by events occurring at that time. These events did not exist for earlier interviewees, potentially causing a different perspective to shape interview data.

Countermeasures were implemented to manage the limitations of this study. Communication of the research agenda and assumptions were made as transparent as possible to the participants. Participants were allowed at any time to ask questions about the research. They could withdraw from the study at any time with no explanation required. A written description as to the nature of the research was provided and time allowed for each participant to reflect and discern his role in the study. The pilot study process provided opportunities to reflect upon the interview process and identify improvements for the main study. One of these improvements included the identification of leading questions within the interview matrix. The use of a reflective journal captured questions, concerns, and thoughts regarding researcher influence on the participants. The author was keenly aware of both his own axiology and the unusual dual role he was presenting to his co-workers – that of manager and researcher. Above all, there was a genuine interest and concern for both the participant information provided the integrity of the researcher-participant relationship. The sharing of personal experiences in a collegial and meaningful interaction was a privilege and a form of deep respect between the participant and the researcher.

6.6 Recommendations for Research

While the data and findings of this study have provided one view on employee held notions of Lean of Respect for People, this study has opened up interesting opportunities for further research in the areas of Respect for People and Disrespect for People and the potential role of leadership in a Lean context.

6.6.1 Conduct Further Research on Respect for People

Conduct further research both qualitatively or quantitatively on Respect for People within a Lean context to further understand its role in the implementation of Lean methodologies. A renewed focus on Taiichi Ohno's premise of the necessary concept of Respect for People may contribute valuable research and further findings to improve and sustain Lean outcomes.

6.6.2 Conduct Exploratory Research on a Potential Phenomenon of Disrespect for People

Conduct exploratory qualitative research on the notion of Disrespect for People within a Lean context. Data collected in the study suggested that Disrespect for People was a notion firmly held in the minds of employees. Future research could examine the role this phenomenon might interact with Lean outcomes.

6.6.3 Explore Leadership and Thinking Differently within a Lean Context

Explore the notions of leadership and *Thinking Differently* within a Lean context. The peer practitioner focus group offered the notions of leadership and *Thinking Differently* as significant to enhancing improved Lean outcomes. Future quantitative and qualitative research could examine the role of leadership and *Thinking Differently* on Lean outcomes.

6.7 Recommendations for Practice

The data and findings of this study have presented an opportunity for practitioners to reconsider their approach to implementing Lean methodologies within their organisation. By developing shared employee meaning of Lean and Respect for People through phenomenological interviewing, practitioners may be able to enhance Lean implementation outcomes.

6.7.1 Develop a Shared Organisational Meaning of Lean and Respect for People

It has been the practice of this researcher to begin with the implementation of Lean methodologies without much regard to the implications of the role of organisational culture. Instead, by developing a shared meaning for both Lean and Respect for People as Lean methodologies are implemented, the organisation may be able to enhance the implementation of Lean methodologies by understanding the connectedness of employee meaning to Lean and Respect for People and the tacit underlying assumptions, beliefs, norms and experiences held by the employees tasked to do the Lean work. Also, it may be discovered that there already exists a certain amount of knowledge and experience of Lean within the organisation that can be used to enhance Lean implementation outcomes.

6.7.2 Employ Phenomenological Interviewing as a Method for Encouraging Respect for People

Employ phenomenological interviews as a way to develop and articulate the shared meanings of Lean and Respect for People when implementing Lean to help create a more conducive atmosphere toward the acceptance of Lean methodologies by employees. Probing, open ended questions to clarify and to understand meaning elicited some post interview comments by participants of being listened to, of enjoying the opportunity to speak about their Lean experiences, sometimes for the first time within the organisation. One participant followed up his interview with a further contribution in writing of thoughts that had occurred to him subsequent to the interview. The act of phenomenological interviewing therefore may be perceived by some participants to be reflective of, and encouraging of, such Respect for People core concept dimensions as *Listening*, *We Can Contribute*, *Respect Goes Both Ways*, *Inclusiveness* and *Acknowledging Employees' Experiences*.

6.8 Chapter Summary

The Toyota Production System is a manufacturing process developed by The Toyota Motor Company and is commonly called Lean Manufacturing or simply Lean. Since its introduction to North American automotive companies in the 1980s, companies at every level in the automotive supply chain have attempted to emulate the Toyota Production System. More recently, organisations of every stripe, and in every part of the world, are turning to Lean in an attempt to realise the benefits of reduced costs, shorter delivery times, increased productivity and other organisational benefits.

Implementing Lean is not without significant challenges. After almost thirty years of academic study, researchers do not yet agree on a common definition of Lean, or even a common name to describe the activities of the Toyota Production System. Significantly, low success rates are documented in the Lean literature. It is not uncommon for organisations to re-start their Lean initiatives two or more times. However, those entities that are eventually successful in implementing Lean offer hope to the many following behind them. And yet, while some organisations may be successful in implementing Lean methodologies, sustaining these efforts for the long term is also difficult. And while the organisation may indeed realise benefits of a Lean implementation, research has indicated that the impact on employees can be negative. A critical review of the literature suggested that some researchers attribute problems of Lean implementation to organisational culture issues. However, little research has been conducted to date to explore or corroborate this assertion. Taiichi Ohno (1988), a founder of the Toyota Production System, stated that Lean could not work without a concept he called Respect for Humanity. While researchers have renamed his notion of Humanity with Respect for People, and have articulated agreement with his theory, none have pursued an exploration of what Respect for People means from the employee perspective in a Lean context or its impact on the implementation of Lean methodologies.

The intent of this study was to develop findings which were richly descriptive and offered a deeper understanding of the meaning of Lean and the phenomenon Respect for People in a Lean implementation from the employee perspective. With an enhanced understanding of Lean and Respect for People at his organisation, the practitioner may

be better positioned to enhance improved Lean outcomes for his organisation. A qualitative phenomenological research methodology was used to explore and examine employee meaning of the phenomena of Lean and Respect for People. Data revealed that employees believed that Respect for People was meaningfully linked to Lean and had a positive influence on Lean methodologies. Employee meaning was complex and varied for both phenomena. Using Edgar Schein's (1992) multi-level organisational culture model as a starting point, the researcher developed a model for illuminating and explaining the phenomena of Lean and Respect for People at the case company. Developing a methodology for identifying cultural factors that impacted the adoption of Lean methodologies was an important strength of this work. The conceptual model developed from the data may offer new insights for the practitioner when implementing Lean methodologies within their organisation.

Co-incidentally, the research methodology reflected some of the core concepts and dimensions of meaning of both phenomena. The act of including employees in the research, listening to their stories and lived experiences, creating an atmosphere of mutual trust and transparency in the interview process and the use of a focus group team were examples of elements identified in the core concept dimensions of the phenomena themselves. It is suggested that the conceptual model be tested in other organisations to lend additional credibility and enhance the pool of core concepts and cultural dimensions discovered here. Further, this study found that employees interviewed did not describe Lean as mean. While Lean methodologies were looked upon as difficult perhaps to implement, employees perceived a favourable impact on work processes and the business as a whole. Engaging employees in the identification of their organisation's cultural factors promoted a shared organisational meaning of Lean and Respect for People for the case company. Developing a shared congruent cultural meaning of both Lean and Respect for People could lead employees to a better understanding of how Lean methodologies and cultural factors can work together to improve and sustain Lean implementation outcomes within their organisation.

Improving Lean success rates is important to employees, to organisations and to society. If employees are respected and engaged, they can contribute to more successful Lean outcomes. If Lean outcomes are more successful, organisations will benefit from improved operational efficiencies and will be more successful. And if organisations are

more successful, society will benefit from stable employment and more efficient use of constrained resources in such services as education and health care. Ultimately, all organisational stakeholders benefit from improved Lean outcomes. The data presented in this thesis supported a positive employee interpretation of the phenomena of Lean and Respect for People. While a shared employee meaning of Lean and Respect for People is the not the only key success factor needed for successful Lean implementation, a renewed focus on Taiichi Ohno's (1988) premise of Respect for People may be an important ingredient for enhancing Lean methodologies and outcomes.

REFERENCES

ACHANGA, P., SHEHAB, E., RAJKUMAR, R. & NELDER, G. 2006. Critical success factors for lean implementation within SMEs. *Journal of Manufacturing Technology Management,* 17**,** 460-471.

ADLER, P., GOLDOFTAS, B. & LEVINE, D. 1997. Ergonomics, employee involvement, and the Toyota production system: a case study of NUMMI's 1993 model introduction. *Industrial & Labor Relations Review,* 50**,** 416-437.

AIJ, K., VISSE, M. & WIDDERSHOVEN, G. 2015. Lean leadership: an ethnographic study. *Leadership in Health Services,* 28**,** 119-134.

AL SMADI, S. 2009. Kaizen strategy and the drive for competitiveness: challenges and opportunities. *Competitiveness Review,* 19**,** 203-211.

ALASKARI, O., AHMAD, M. & PINEDO-CUENCA, R. 2016. Development of a methodology to assist manufacturing SMEs in the selection of appropriate lean tools. *International Journal of Lean Six Sigma,* 7**,** 62-84.

ALBLIWI, S., ANTONY, J. & LIM, S. 2015. A systematic review of lean six sigma for the manufacturing industry. *Business Process Management Journal,* 21**,** 665-691.

ALVES, A., DINIS-CARVALHO, J. & SOUSA, R. 2012. Lean production as promoter of thinkers to achieve companies' agility. *The Learning Organization,* 19**,** 219-237.

ALVESSON, M. 2010. *Organizational culture: meaning, discourse, and identity,* Thousand Oaks, SAGE Publications, Inc.

AMASAKA, K. 2008. A new quality management principle: the quality management strategy of Toyota. *Science TQM,* 1**,** 7-22.

ANDERSSON, R., ERIKSSON, H. & TORSTENSSON, H. 2006. Similarities and differences between TQM, six sigma and lean. *The TQM Magazine,* 18**,** 282-296.

ANDERSSON, R., HILLETOFTH, P., MANFREDSSON, P. & HILMOLA, O. 2014. Lean six sigma strategy in telecom manufacturing. *Industrial Management & Data Systems,* 114**,** 904-921.

ANGELIS, J., CONTI, R., COOPER, C. & GILL, C. 2011. Building a high-commitment lean culture. *Journal of Manufacturing Technology Management,* 22**,** 569-586.

ARLBJØRN, J. & FREYTAG, P. 2013. Evidence of lean: a review of international peer-reviewed journal articles. *European Business Review,* 25**,** 174-205.

ATKINSON, P. 2010. 'Lean' is a cultural issue. *Management Services,* 54**,** 35-41.

ATKINSON, P. & NICHOLLS, L. 2013. Demystifying 'lean culture change' and continuous improvement. *Management Services,* 57**,** 10-15.

BABSON, S. 1993. Lean or mean: the MIT model and lean production at Mazda. *Labor Studies Journal,* 18**,** 3-24.

BADURDEEN, F. & GREGORY, B. 2012. The softer side of lean. *Industrial Engineer,* 44**,** 49-53.

BADURDEEN, F., WIJEKOON, K. & MARKSBERRY, P. 2011. An analytical hierarchy process-based tool to evaluate value systems for lean transformations. *Journal of Manufacturing Technology Management,* 22**,** 46-65.

BAIRD, K., HU, K. & REEVE, R. 2011. The relationships between organizational culture, total quality management practices and operational performance. *International Journal of Operations & Production Management,* 31**,** 789-814.

BALLE, M. 2014. 7 Steps for Leading Lean with Respect for People 2. *Industry Week.*

BALLÉ, M. & RÉGNIER, A. 2007. From cars to catheters: adapting lean principles within a healthcare environment. *Development and Learning in Organizations: An International Journal,* 21**,** 28-30.

BEHROUZI, F. & WONG, K. 2011. Lean performance evaluation of manufacturing systems: a dynamic and innovative approach. *Procedia Computer Science,* 3**,** 388-395.

BELEKOUKIAS, I., GARZA-REYES, J. & KUMAR, V. 2014. The impact of lean methods and tools on the operational performance of manufacturing organisations. *International Journal of Production Research,* 52**,** 5346-5366.

BHAMU, J. & SANGWAN, K. 2014. Lean manufacturing: literature review and research issues. *International Journal of Operations & Production Management,* 34**,** 876-940.

BHASIN, S. 2012. Prominent obstacles to lean. *International Journal of Productivity and Performance Management,* 61**,** 403-425.

BHASIN, S. 2013. Impact of corporate culture on the adoption of the lean principles. *International Journal of Lean Six Sigma,* 4**,** 118-140.

BHASIN, S. & BURCHER, P. 2006. Lean viewed as a philosophy. *Journal of Manufacturing Technology Management,* 17**,** 56-72.

BHUIYAN, N. & BAGHEL, A. 2005. An overview of continuous improvement: from the past to the present. *Management Decision,* 43**,** 761-771.

BHUIYAN, N., BAGHEL, A. & WILSON, J. 2006. A sustainable continuous improvement methodology at an aerospace company. *International Journal of Productivity and Performance Management,* 55**,** 671-687.

BICHENO, J. 2004. *The new lean toolbox: towards fast, flexible flow,* Buckingham, UK, PICSIE Books.

BITITCI, U., MENDIBIL, K., NUDURUPATI, S., GARENGO, P. & TURNER, T. 2006. Dynamics of performance measurement and organisational culture. *International Journal of Operations & Production Management,* 26**,** 1325-1350.

BLAXTER, L., HUGHES, C. & TIGHT, M. 2010. *How to research, fourth edition,* New York, Open University Press.

BLOOMBERG, L. & VOLPE, M. 2012. *Completing your qualitative dissertation - a road map from beginning to end,* Los Angeles, Sage Publications.

BONAVIA, T. & MARIN, J. 2006. An empirical study of lean production in the ceramic tile industry in Spain. *International Journal of Operations & Production Management,* 26**,** 505-531.

BORTOLOTTI, T., BOSCARI, S. & DANESE, P. 2015. Successful lean implementation: organizational culture and soft lean practices. *International Journal of Production Economics,* 160**,** 182-201.

BRAH, S. & CHONG, W. 2004. Relationship between total productive maintenance and performance. *International Journal of Production Research,* 42**,** 2383-2401.

BROWN, C., COLLINS, T. & MCCOMBS, E. 2006. Transformation from batch to lean manufacturing: the performance issues. *Engineering Management Journal,* 18**,** 3-13.

BROWN, K., WILLIS, P. & PRUSSIA, G. 2000. Predicting safe employee behavior in the steel industry: development and test of a sociotechnical model. *Journal of Operations Management,* 18**,** 445-465.

BRUNO, R. & JORDAN, L. 2002. Lean production and the discourse of dissent: radicalizing the shop floor at Mitsubishi Motors˚ *Working USA,* 6**,** 108-134.

BURGESS, N. & RADNOR, Z. 2013. Evaluating lean in healthcare. *International Journal of Health Care Quality Assurance,* 26**,** 220-235.

CAMUFFO, A., DE STEFANO, F. & PAOLINO, C. 2017. Safety reloaded: lean operations and high involvement work practices for sustainable workplaces. *Journal of Business Ethics,* 143**,** 245-259.

CARTER, B., DANFORD, A., HOWCROFT, D., RICHARDSON, H., SMITH, A. & TAYLOR, P. 2011. Lean and mean in the civil service: the case of processing in HMRC. *Public Money & Management,* 31**,** 115-122.

CHAKRAVORTY, S. & HALES, D. 2016. Sustaining process improvement: the Red Queen effect. *Production Planning & Control,* 27**,** 621-636.

CHAN, Z., FUNG, Y. & CHIEN, W. 2013. Bracketing in phenomenology: only undertaken in the data collection and analysis process. *The Qualitative Report,* 18**,** 1-9.

CHAVEZ, R., GIMENEZ, C., FYNES, B., WIENGARTEN, F. & YU, W. 2013. Internal lean practices and operational performance. *International Journal of Operations & Production Management,* 33**,** 562-588.

CHEN, J., CHENG, C. & HUANG, P. 2013. Supply chain management with lean production and RFID application: a case study. *Expert Systems with Applications,* 40**,** 3389-3397.

CHIARINI, A. 2011. Integrating lean thinking into ISO 9001: a first guideline. *International Journal of Lean Six Sigma,* 2**,** 96-117.

CHOI, T. & LIKER, J. 1995. Bringing Japanese continuous improvement approaches to U.S. manufacturing: the roles of process orientation and communications. *Decision Sciences,* 26**,** 589-620.

CHOWDARY, B. & GEORGE, D. 2012. Improvement of manufacturing operations at a pharmaceutical company. *Journal of Manufacturing Technology Management,* 23**,** 56-75.

COETZEE, R., VAN DER MERWE, K. & VAN DYK, L. 2016. Lean implementation strategies: how are the Toyota Way principles addressed˚ *South African Journal of Industrial Engineering,* 27**,** 79-91.

COONEY, R. 2002. Is 'lean' a universal production system˚ Batch production in the automotive industry. *International Journal of Operations & Production Management,* 22**,** 1130-1147.

CRESWELL, J. 1998. *Qualitative inquiry and research design: choosing among five traditions,* Thousand Oaks, Sage Publications.

CRESWELL, J. 2009. *Research design: qualitative, quantitative, and mixed methods approaches,* Thousand Oaks, Sage Publications.

CROTTY, M. 1998. *The foundations of social research: meaning and perspective in the research process,* Thousand Oaks, Sage Publications.

CUA, K., MCKONE, K. & SCHROEDER, R. 2001. Relationships between implementation of TQM, JIT, and TPM and manufacturing performance. *Journal of Operations Management,* 19**,** 675-694.

DALAL, A. 2010. Keep it simple (lean manufacturing). *Quality Progress,* 43**,** 24-28.

DANIELSSON, C. 2013. An explorative review of the lean office concept. *Journal of Corporate Real Estate,* 15**,** 167-180.

DANKBAAR, B. 1997. Lean production: denial, confirmation or extension of sociotechnical systems design˚ *Human Relations,* 50**,** 567-583.

DE TREVILLE, S. & ANTONAKIS, J. 2006. Could lean production job design be intrinsically motivating˚ Contextual, configurational, and levels-of-analysis issues. *Journal of Operations Management,* 24**,** 99-123.

DELISLE, D. & FREIBERG, V. 2014. Everything is 5S: a simple yet powerful lean improvement approach applied in a preadmission testing center. *The Quality Management Journal,* 21**,** 10-22.

DENZIN, K. & LINCOLN, Y. 2003. *The landscape of qualitative research,* Thousand Oaks, Sage Publications.

DIBIA, I., DHAKAL, H. & ONUH, S. 2014. Lean "Leadership People Process Outcome" (LPPO) implementation model. *Journal of Manufacturing Technology Management,* 25**,** 694-711.

DOMBROWSKI, U. & MIELKE, T. 2014. Lean leadership – 15 Rules for a sustainable lean implementation. *Procedia CIRP,* 17**,** 565-570.

DOOLEN, T. & HACKER, M. 2005. A review of lean assessment in organizations: an exploratory study of lean practices by electronics manufacturers. *Journal of Manufacturing Systems,* 24**,** 55-67.

DORA, M., KUMAR, M., VAN GOUBERGEN, D., MOLNAR, A. & GELLYNCK, X. 2013. Operational performance and critical success factors of lean manufacturing in European food processing SMEs. *Trends in Food Science & Technology,* 31**,** 156-164.

DOWLING, M. 2007. From Husserl to van Manen. A review of different phenomenological approaches. *International Journal of Nursing Studies,* 44**,** 131-142.
DROTZ, E. & POKSINSKA, B. 2014. Lean in healthcare from employees' perspectives. *Journal of Health Organization and Management,* 28**,** 177-195.
DRUCKER, P. 2001. *Management challenges for the 21st century,* New York, HarperCollins.
DUGUAY, C., LANDRY, S. & PASIN, F. 1997. From mass production to flexible/agile production. *International Journal of Operations & Production Management,* 17**,** 1183-1195.
ELLINGSEN, T. & JOHANNESSON, M. 2007. Paying respect. *The Journal of Economic Perspectives,* 21**,** 135-149.
EMILIANI, M. 2000. Cracking the code of business. *Management Decision,* 38**,** 60-79.
EMILIANI, M. 2004. Improving business school courses by applying lean principles and practices. *Quality Assurance in Education,* 12**,** 175-187.
EMILIANI, M. 2005. Using kaizen to improve graduate business school degree programs. *Quality Assurance in Education,* 13**,** 37-52.
EMILIANI, M. 2006. Origins of lean management in America. *Journal of Management History,* 12**,** 167-184.
EMILIANI, M. & EMILIANI, M. 2013. Music as a framework to better understand lean leadership. *Leadership & Organization Development Journal,* 34**,** 407-426.
EMILIANI, M. & SEYMOUR, P. 2011. Frank George Woollard: forgotten pioneer of flow production. *Journal of Management History,* 17**,** 66-87.
EMILIANI, M. & STEC, D. 2004. Using value-stream maps to improve leadership. *Leadership & Organization Development Journal,* 25**,** 622-645.
FAIRRIS, D. 2002. Are transformed workplaces more productively efficient˚ *Journal of Economic Issues,* 36**,** 659-670.
FLUMERFELT, S., SIRIBAN-MANALANG, A. & KAHLEN, F. 2012. Are agile and lean manufacturing systems employing sustainability, complexity and organizational learning˚ *The Learning Organization,* 19**,** 238-247.
FULLERTON, R. & MCWATTERS, C. 2001. The production performance benefits from JIT implementation. *Journal of Operations Management,* 19**,** 81-96.
FURLAN, A., VINELLI, A. & DAL PONT, G. 2011. Complementarity and lean manufacturing bundles: an empirical analysis. *International Journal of Operations & Production Management,* 31**,** 835-850.
GAMME, I. & ASCHEHOUG, S. 2014. Assessing lean's impact on operational integration. *International Journal of Quality and Service Sciences,* 6**,** 112-123.
GLESNE, C. 1999. *Becoming qualitative researchers - an introduction,* New York, Longman.
GOWEN, C., MCFADDEN, K. & SETTALURI, S. 2012. Contrasting continuous quality improvement, six sigma, and lean management for enhanced outcomes in US hospitals. *American Journal of Business,* 27**,** 133-153.
GRABAN, M. 2009. *Lean hospitals - improving quality, patient safety and employee satisfaction,* New York, Productivity Press.
GUPTA, S., SHARMA, M. & SUNDER, V. 2016. Lean services: a systematic review. *International Journal of Productivity and Performance Management,* 65**,** 1025-1056.
GURUMURTHY, A. & KODALI, R. 2009. Application of benchmarking for assessing the lean manufacturing implementation. *Benchmarking,* 16**,** 274-308.
HÅKANSSON, M., HOLDEN, R., ERIKSSON, A. & DELLVE, L. 2017. Managerial practices that support lean and socially sustainable working conditions. *Nordic Journal of Working Life Studies,* 7**,** 63-84.
HALLGREN, M. & OLHAGER, J. 2009. Flexibility configurations: empirical analysis of volume and product mix flexibility. *Omega,* 37**,** 746-756.
HARBER, D., BURGESS, K. & BARCLAY, D. 1993. Total quality management as a cultural intervention: an integrative review. *International Journal of Quality & Reliability Management,* 10**,** 17-30.
HARDING, J. 2013. *Qualitative data analysis from start to finish,* London, Sage Publications.

HASLE, P., BOJESEN, A., JENSEN, P. & BRAMMING, P. 2012. Lean and the working environment: a review of the literature. *International Journal of Operations & Production Management,* 32**,** 829-849.
HAYES, K., REED, N., FITZGERALD, A. & WATT, V. 2014. Applying lean flows in pathology laboratory remodelling. *Journal of Health Organization and Management,* 28**,** 229-246.
HILTON, R. & SOHAL, A. 2012. A conceptual model for the successful deployment of lean six sigma. *The International Journal of Quality & Reliability Management,* 29**,** 54-70.
HINES, P., FOUND, P., GRIFFITHS, G. & HARRISON, R. 2008. *Staying lean - thriving, not just surviving,* Cardiff University, Lean Enterprise Research Centre.
HINES, P., HOLWE, M. & RICH, N. 2004. Learning to evolve: a review of contemporary lean thinking. *International Journal of Operations & Production Management,* 24**,** 994-1011.
HIRD, L. & NOAKES, G. 2014. Implementing lean for nonprofits. *Nonprofit World,* 32**,** 4-6.
HOFSTEDE, G., OHAYV, D., NEUIJEN, B. & SANDERS, G. 1990. Measuring organizational cultures: a qualitative and quantitative study across twenty cases. *Administrative Science Quarterly,* 35**,** 286-316.
HOLWEG, M. 2007. The genealogy of lean production. *Journal of Operations Management,* 25**,** 420-437.
HOPP, W. J. & SPEARMAN, M. L. 2004. To pull or not to pull: what is the question˚ *Manufacturing & Service Operations Management,* 6**,** 133-148.
HOUBORG, C. 2010. Implementing a successful lean programme: where do you begin˚ *Pharmaceutical Technology Europe,* 22**,** 52-57.
HOZAK, K. & OLSEN, E. 2015. Lean psychology and the theories of thinking, fast and slow. *International Journal of Lean Six Sigma,* 6**,** 206-225.
HUEHN-BROWN, W. & MURRAY, S. 2010. Are companies continuously improving their supply chain˚ *Engineering Management Journal,* 22**,** 3-10.
HUMMER, J. & DACCARETT, C. 2009. Improvement in prescription renewal handling by application of the lean process. *Nursing Economics,* 27**,** 197-201.
JACKSON, M. & MAZUR, L. 2011. Exploring lean healthcare transformation using the theory of planned behavior. *IIE Annual Conference. Proceedings***,** 1-6.
JADHAV, J., MANTHA, S. & RANE, S. 2014. Exploring barriers in lean implementation. *International Journal of Lean Six Sigma,* 5**,** 122-148.
JASTI, N. & KODALI, R. 2015. Lean production: literature review and trends. *International Journal of Production Research,* 53**,** 867-885.
JOOSTEN, T., BONGERS, I. & JANSSEN, R. 2009. Application of lean thinking to health care: issues and observations. *International Journal for Quality in Health Care,* 21**,** 341-347.
KALTENBRUNNER, M., BENGTSSON, L., MATHIASSEN, S. & ENGSTROM, M. 2017. A questionnaire measuring staff perceptions of lean adoption in healthcare: development and psychometric testing. *BMC Health Services Research,* 17**,** 235-246.
KARIM, A. & ARIF-UZ-ZAMAN, K. 2013. A methodology for effective implementation of lean strategies and its performance evaluation in manufacturing organizations. *Business Process Management Journal,* 19**,** 169-196.
KIM, S., MABIN, V. & DAVIES, J. 2008. The theory of constraints thinking processes: retrospect and prospect. *International Journal of Operations & Production Management,* 28**,** 155-184.
KOLLBERG, B., DAHLGAARD, J. & PER-OLAF, B. 2007. Measuring lean initiatives in health care services: issues and findings. *International Journal of Productivity and Performance Management,* 56**,** 7-24.
KORNFELD, B. & KARA, S. 2011. Project portfolio selection in continuous improvement. *International Journal of Operations & Production Management,* 31**,** 1071-1088.
KOSUGE, R. 2014. The integration of lean and socio-technical practices in Sweden. *Annals of Business Administrative Science,* 13**,** 255-269.
KRAFCIK, J. 1988. Triumph of the lean production system. *Sloan Management Review,* 30**,** 41-52.

KRISHNA, J. & SHARMA, A. 2014. Lean manufacturing implementation using value stream mapping as a tool. *International Journal of Lean Six Sigma,* 5**,** 89-116.
KUMAR, S. & BAUER, K. 2010. Exploring the use of lean thinking and six sigma in public housing authorities. *The Quality Management Journal,* 17**,** 29-46.
LAM, M., O'DONNELL, M. & ROBERTSON, D. 2015. Achieving employee commitment for continuous improvement initiatives. *International Journal of Operations & Production Management,* 35**,** 201-215.
LANGSTRAND, J. & DROTZ, E. 2016. The rhetoric and reality of lean: a multiple case study. *Total Quality Management & Business Excellence,* 27**,** 398-412.
LEE-MORTIMER, A. 2006. A lean route to manufacturing survival. *Assembly Automation,* 26**,** 265-272.
LIKER, J. 2004. *The Toyota Way: 14 management principles from the world's greatest manufacturer,* New York, McGraw-Hill.
LIKER, J. & HOSEUS, M. 2008. *Toyota culture - the heart and soul of the Toyota Way,* New York, McGraw-Hill.
LIKER, J. & MORGAN, J. 2011. Lean product development as a system: a case study of body and stamping development at Ford. *Engineering Management Journal,* 23**,** 16-28.
LIKER, J. & WU, Y. 2000. Japanese automakers, U.S. suppliers and supply-chain superiority. *Sloan Management Review,* 42**,** 81-93.
LJUNGBLOM, M. 2014. Ethics and lean management - a paradox˚ *International Journal of Quality and Service Sciences,* 6**,** 191-202.
LOSONCI, D., DEMETER, K. & JENEI, I. 2011. Factors influencing employee perceptions in lean transformations. *International Journal of Production Economics,* 131**,** 30-43.
LOSONCI, D., KÁSA, R., DEMETER, K., HEIDRICH, B. & JENEI, I. 2017. The impact of shop floor culture and subculture on lean production practices. *International Journal of Operations & Production Management,* 37**,** 205-225.
LUCATO, W., CALARGE, F., LOUREIRO, M. & CALADO, R. 2014. Performance evaluation of lean manufacturing implementation in Brazil. *International Journal of Productivity and Performance Management,* 63**,** 529-549.
MACDUFFIE, J. 1995. Human resource bundles and manufacturing performance: organizational logic and flexible production systems in the world auto industry. *Industrial and Labor Relations Review,* 48**,** 197-221.
MANN, D. 2005. *Creating a lean culture,* New York, Productivity Press.
MANN, D. 2009. The missing link: lean leadership. *Frontiers of Health Services Management,* 26**,** 15-26.
MANVILLE, G., GREATBANKS, R., KRISHNASAMY, R. & PARKER, D. 2012. Critical success factors for lean six sigma programmes: a view from middle management. *The International Journal of Quality & Reliability Management,* 29**,** 7-20.
MARIN-GARCIA, J., PARDO DEL VAL, M. & MARTÍN, T. 2008. Longitudinal study of the results of continuous improvement in an industrial company. *Team Performance Management,* 14**,** 56-69.
MARKSBERRY, P. 2011. The Toyota Way - a quantitative approach. *International Journal of Lean Six Sigma,* 2**,** 132-150.
MARKSBERRY, P. 2012. Investigating 'The Way' for Toyota suppliers. *Benchmarking,* 19**,** 277-298.
MARKSBERRY, P., BADURDEEN, F. & MAGINNIS, M. 2011. An investigation of Toyota's social-technical systems in production leveling. *Journal of Manufacturing Technology Management,* 22**,** 604-620.
MARLEY, K. & WARD, P. 2013. Lean management as a countermeasure for 'normal' disruptions. *Operations Management Research,* 6**,** 44-52.
MARTÍNEZ-JURADO, P., MOYANO-FUENTES, J. & GÓMEZ, P. 2013. HR management during lean production adoption. *Management Decision,* 51**,** 742-760.

MAZUR, L., MCCREERY, J. & ROTHENBERG, L. 2012. Facilitating lean learning and behaviors in hospitals during the early stages of lean implementation. *Engineering Management Journal,* 24**,** 11-22.
MAZZOCATO, P., THOR, J., BÄCKMAN, U., BROMMELS, M., CARLSSON, J., JONSSON, F., HAGMAR, M. & SAVAGE, C. 2014. Complexity complicates lean: lessons from seven emergency services. *Journal of Health Organization and Management,* 28**,** 266-88.
MCLEAN, R. S., ANTONY, J. & DAHLGAARD, J. J. 2015. Failure of Continuous Improvement initiatives in manufacturing environments: a systematic review of the evidence. *Total Quality Management & Business Excellence***,** 1-19.
MELTON, T. 2005. The benefits of lean manufacturing: what lean thinking has to offer the process Industries. *Chemical Engineering Research and Design,* 83**,** 662-673.
MERRIAM, S. 2009. *Qualitative research - a guide to design and implementation,* San Francisco, Jossey-Bass.
MILES, M., HUBERMAN, M. & SALDANA, J. 2014. *Qualitative data analysis - a methods sourcebook,* Thousand Oaks, Sage Publications.
MIRDAD, W. & ESEONU, C. 2015. A conceptual map of the lean nomenclature: comparing expert classification to the lean literature. *Engineering Management Journal,* 27**,** 188-202.
MOSTAFA, S., DUMRAK, J. & SOLTAN, H. 2013. A framework for lean manufacturing implementation. *Production & Manufacturing Research,* 1**,** 44-64.
MURUGAIAH, U., BENJAMIN, S., MARATHAMUTHU, M. & MUTHAIYAH, S. 2010. Scrap loss reduction using the 5-whys analysis. *The International Journal of Quality & Reliability Management,* 27**,** 527-540.
MUZYKA, D. 2014. The Importance of Core Values. *Research Technology Management,* 57**,** 64.
MYRELID, A. & OLHAGER, J. 2015. Applying modern accounting techniques in complex manufacturing. *Industrial Management & Data Systems,* 115**,** 402-418.
NAYLOR, B., NAIM, M. & BERRY, D. 1999. Leagility: integrating the lean and agile manufacturing paradigms in the total supply chain. *International Journal of Production Economics,* 62**,** 107-118.
NETLAND, T. & SANCHEZ, E. 2014. Effects of a production improvement programme on global quality performance. *TQM Journal,* 26**,** 188-201.
NICHOLAS, J. 2016. Hoshin kanri and critical success factors in quality management and lean production. *Total Quality Management & Business Excellence,* 27**,** 250-264.
OHNO, T. 1988. *Toyota production system - beyond large-scale production,* Cambridge, Productivity Press.
OKOYE, P., EGBUNIKE, F. & MEDUOYE, O. 2013. Product cost management via the kaizen costing system: perception of accountants. *Journal of Management and Sustainability,* 3**,** 114-125.
OLIVER, J. 2009. Continuous improvement: role of organisational learning mechanisms. *The International Journal of Quality & Reliability Management,* 26**,** 546-563.
PACHECO, D., PERGHER, I., VACCARO, G., JUNG, C. & TEN CATEN, C. 2015. 18 comparative aspects between lean and six sigma. *International Journal of Lean Six Sigma,* 6**,** 161-175.
PAKDIL, F. & LEONARD, K. 2014. Criteria for a lean organisation: development of a lean assessment tool. *International Journal of Production Research,* 52**,** 4587-4607.
PARRY, G., MILLS, J. & TURNER, C. 2010. Lean competence: integration of theories in operations management practice. *Supply Chain Management,* 15**,** 216-226.
PARRY, G. & TURNER, C. 2006. Application of lean visual process management tools. *Production Planning & Control,* 17**,** 77-86.
PAVNASKAR, S., GERSHENSON, J. & JAMBEKAR, A. 2003. Classification scheme for lean manufacturing tools. *International Journal of Production Research,* 41**,** 3075-3090.

PEDERSEN, E. & HUNICHE, M. 2011. Negotiating lean: the fluidity and solidity of new management technologies in the Danish public sector. *International Journal of Productivity and Performance Management,* 60**,** 550-566.
PETTIGREW, A. 1979. On studying organizational cultures. *Administrative Science Quarterly,* 24**,** 570-581.
POWELL, D., STRANDHAGEN, J., TOMMELEIN, I., BALLARD, G. & ROSSI, M. 2014. A new set of principles for pursuing the lean ideal in engineer-to-order manufacturers. *Procedia CIRP,* 17**,** 571-576.
PUTNIK, G. 2012. Lean vs. agile from an organizational sustainability, complexity and learning perspective. *The Learning Organization,* 19**,** 176-182.
PUTNIK, G. & PUTNIK, Z. 2012. Lean vs. agile in the context of complexity management in organizations. *The Learning Organization,* 19**,** 248-266.
RAGHAVAN, V., LAM, S., SRIHARI, K., RAMAKRISHNAN, S. & TESTANI, M. 2013. A methodology for assessing the adoption rates of an organization's lean transformation. *IIE Annual Conference Proceedings***,** 998-1005.
RANDHAWA, J. & AHUJA, I. 2017. 5S - a quality improvement tool for sustainable performance: literature review and directions. *The International Journal of Quality & Reliability Management,* 34**,** 334-361.
RASSOOL, S. & NEL, P. 2012. Experiences of causing an accidental death: an interpretative phenomenological analysis. *Death Studies,* 36**,** 832-857.
RAWABDEH, I. 2005. A model for the assessment of waste in job shop environments. *International Journal of Operations & Production Management,* 25**,** 800-822.
REDMOND, L. & SUDDICK, K. 2012. The lived experience of freezing in people with Parkinson's: an interpretive phenomenological approach. *International Journal of Therapy and Rehabilitation,* 19**,** 169-177.
RINEHART, J., HUXLEY, C. & ROBERTSON, D. 1997. *Just another car factory? Lean production and its discontents,* New York, Cornell University Press.
RINGEN, G., ASCHEHOUG, S., HOLTSKOG, H. & INGVALDSEN, J. 2014. Integrating quality and lean into a holistic production system. *Procedia CIRP,* 17**,** 242-247.
ROTHSTEIN, J. 2004. Creating lean industrial relations: General Motors in Silao, Mexico. *Competition & Change,* 8**,** 203-221.
RUIZ-DE-ARBULO-LOPEZ, P., FORTUNY-SANTOS, J. & CUATRECASAS-ARBÓS, L. 2013. Lean manufacturing: costing the value stream. *Industrial Management + Data Systems,* 113**,** 647-668.
RYMASZEWSKA, A. 2014. The challenges of lean manufacturing implementation in SMEs. *Benchmarking,* 21**,** 987-1002.
SAJA, A., JIJU, A., SARINA ABDUL HALIM, L. & TON VAN DER, W. 2014. Critical failure factors of Lean Six Sigma: a systematic literature review. *International Journal of Quality & Reliability Management,* 31**,** 1012-1030.
SALDANA, J. 2013. *The coding manual for qualitative researchers,* Thousand Oaks, Sage Publications.
SALIM, J., ISMAIL, M., SUWARNO, I., WAHAB, A., MUKHTAR, M. & SULAIMAN, R. 2013. A conceptual model of lean manufacturing dimensions. *Procedia Technology,* 11**,** 1292-1298.
SAMSON, D. & TERZIOVSKI, M. 1999. The relationship between total quality management practices and operational performance. *Journal of Operations Management,* 17**,** 393-409.
SAMUEL, D., FOUND, P. & WILLIAMS, S. 2015. How did the publication of the book *The Machine That Changed The World* change management thinking˚ Exploring 25 years of lean literature. *International Journal of Operations & Production Management,* 35**,** 1386-1407.
SAUNDERS, M., LEWIS, P. & THORNHILL, A. 2012. *Research methods for business students,* Harlow, Pearson.

SAYER, N. & WILLIAMS, B. 2007. *Lean for dummies,* Hoboken, Wiley Publishing.
SCHEIN, E. 1992. *Organizational culture and leadership,* San Francisco, Jossey-Bass.
SCHERRER-RATHJE, M., BOYLE, T. & DEFLORIN, P. 2009. Lean, take two! Reflections from the second attempt at lean implementation. *Business Horizons,* 52**,** 79-88.
SCHONBERGER, R. 2007. Japanese production management: an evolution - with mixed success. *Journal of Operations Management,* 25**,** 403-419.
SEVIER, A. 1992. Managing employee resistance to JIT: creating an atmosphere that facilitates implementation. *Production and Inventory Management Journal,* 33**,** 83-87.
SHAH, R. & WARD, P. 2003. Lean manufacturing: context, practice bundles, and performance. *Journal of Operations Management,* 21**,** 129-149.
SHAH, R. & WARD, P. 2007. Defining and developing measures of lean production. *Journal of Operations Management,* 25**,** 785-805.
SHARMA, V., DIXIT, A. & QADRI, M. 2016. Modeling lean implementation for manufacturing sector. *Journal of Modelling in Management,* 11**,** 405-426.
SIM, K. & CHIANG, B. 2012. Lean production systems: resistance, success and plateauing. *Review of Business,* 33**,** 97-110.
SIMPSON, D. & POWER, D. 2005. Use the supply relationship to develop lean and green suppliers. *Supply Chain Management: An International Journal,* 10**,** 60-68.
SKORSTAD, E. 1994. Lean production, conditions of work and worker commitment. *Economic and Industrial Democracy,* 15**,** 429-455.
SMITH, J., FLOWERS, P. & LARKIN, M. 2012. *Interpretative phenomenological analysis: theory, method and research,* London, Sage Publications.
SMITH, T. 2015. Lean operations and business purposes: a common grace perspective. *Journal of Markets and Morality,* 18**,** 139-162.
SNYDER, K., INGELSSON, P. & BÄCKSTRÖM, I. 2016. Enhancing the study of lean transformation through organizational culture analysis. *International Journal of Quality and Service Sciences,* 8**,** 395-411.
SORIANO-MEIER, H. & FORRESTER, P. 2002. A model for evaluating the degree of leanness of manufacturing firms. *Integrated Manufacturing Systems,* 13**,** 104-109.
STONE, K. 2012. Four decades of lean: a systematic literature review. *International Journal of Lean Six Sigma,* 3**,** 112-132.
STORCH, R. & LIM, S. 1999. Improving flow to achieve lean manufacturing in shipbuilding. *Production Planning & Control,* 10**,** 127-137.
SUAREZ BARRAZA, M., SMITH, T. & DAHLGAARD-PARK, S. 2009. Lean-kaizen public service: an empirical approach in Spanish local governments. *TQM Journal,* 21**,** 143-167.
SUGIMORI, Y., KUSUNOKI, K., CHO, F. & UCHIKAWA, S. 1977. Toyota production system and kanban system materialization of just-in-time and respect-for-human system. *International Journal of Production Research,* 15**,** 553-564.
SUNDAR, R., BALAJI, A. & KUMAR, R. 2014. A review on lean manufacturing implementation techniques. *Procedia Engineering,* 97**,** 1875-1885.
TAJ, S. & MOROSAN, C. 2011. The impact of lean operations on the Chinese manufacturing performance. *Journal of Manufacturing Technology Management,* 22**,** 223-240.
TIMANS, W., AHAUS, K., VAN SOLINGEN, R., KUMAR, M. & ANTONY, J. 2016. Implementation of continuous improvement based on lean six sigma in small- and medium-sized enterprises. *Total Quality Management & Business Excellence,* 27**,** 309-324.
TIWARI, A., TURNER, C. & SACKETT, P. 2007. A framework for implementing cost and quality practices within manufacturing. *Journal of Manufacturing Technology Management,* 18**,** 731-760.
TRIMBLE, R., COPELAND, K., MACINTYRE, J. & SMITH, P. 2013. The use and impact of manufacturing productivity improvement tools and methodologies within the automotive component industry. *Engineering Management Research,* 2**,** 21-33.
TURESKY, E. & CONNELL, P. 2010. Off the rails: understanding the derailment of a lean manufacturing initiative. *Organization Management Journal,* 7**,** 110-132.

VAGLE, M. 2014. *Crafting phenomenological research,* Walnut Creek, Left Coast Press.
VAGO, T., BELL, A. & THOMPSON, H. 2016. Lean delivery: a hospital improves its labor and birth unit with lean, quality culture. *Quality Progress,* 49**,** 30-35.
VAN DUN, D., HICKS, J. & WILDEROM, C. 2017. Values and behaviors of effective lean managers: mixed-methods exploratory research. *European Management Journal,* 35**,** 174-186.
VAN MANEN, M. 1994. *Researching lived experience: human science for an action sensitive pedagogy,* The University of Western Ontario, Althouse Press.
VAN QUAQUEBEKE, N. & ECKLOFF, T. 2010. Defining respectful leadership: what it is, how it can be measured, and another glimpse at what it is related to. *Journal of Business Ethics,* 91**,** 343-358.
VAN QUAQUEBEKE, N., ZENKER, S. & ECKLOFF, T. 2008. Find out how much it means to me! The importance of interpersonal respect in work values compared to perceived organizational practices. *Journal of Business Ethics,* 89**,** 423-431.
WARD, P. & ZHOU, H. 2006. Impact of information technology integration and lean/just-in-time practices on lead-time performance. *Decision Sciences,* 37**,** 177-203.
WASHINGTON, M. & HACKER, M. 2005. Why change fails: knowledge counts. *Leadership & Organization Development Journal,* 26**,** 400-411.
WHITE, M., WELLS, J. & BUTTERWORTH, T. 2013. Leadership, a key element of quality improvement in healthcare. Results from a literature review of 'lean healthcare' and the productive ward. *The International Journal of Leadership in Public Services,* 9**,** 90-108.
WIENGARTEN, F., GIMENEZ, C., FYNES, B. & FERDOWS, K. 2015. Exploring the importance of cultural collectivism on the efficacy of lean practices. *International Journal of Operations & Production Management,* 35**,** 370-391.
WOEHL, J. 2011. *How leadership styles reflect on lean manufacturing practices and culture.* 3473260 Ph.D., Capella University.
WOMACK, J. & JONES, D. 2003. *Lean thinking: banish waste and create wealth in your corporation,* New York, Free Press.
WOMACK, J., JONES, D. & ROOS, D. 1990. *The machine that changed the world: the story of lean production,* New York, Harper Perennial.
WONG, M. 2007. The role of culture in implementing lean production. *Advances in Production Management Systems,* International IFIP TC 5, WG 5.7 Conference on Advances in Production Management Systems (APMS 2007), September 17–19, Linköping, Sweden.
WORLEY, J. & DOOLEN, T. 2006. The role of communication and management support in a lean manufacturing implementation. *Management Decision,* 44**,** 228-245.
YAMAMOTO, Y. & BELLGRAN, M. 2010. Fundamental mindset that drives improvements towards lean production. *Assembly Automation,* 30**,** 124-130.
ZHOU, B. 2016. Lean principles, practices, and impacts: a study on small and medium-sized enterprises (SMEs). *Annals of Operations Research,* 241**,** 457-474.
ZIMMERMANN, A. & BOLLBACH, M. 2015. Institutional and cultural barriers to transferring lean production to China: evidence from a German automotive components manufacturer. *Asian Business & Management,* 14**,** 53-85.

APPENDICES

Appendix A – Researcher Endnote Word Search Methodology for Respect for People

An initial search for the word 'respect' returned a very large selection of 185 references. This was too large a list from which to work.

Search criteria was then refined more specifically to Respect for People.

The second search consisted of the following formula in Endnote:

'Any Field + PDF with' Contains Respect for People

This search revealed 41 references containing the phrase Respect for People.

A third search formula was developed in Endnote using 'respect for humanity':

'Any Field + PDF with' Contains 'respect for humanity'

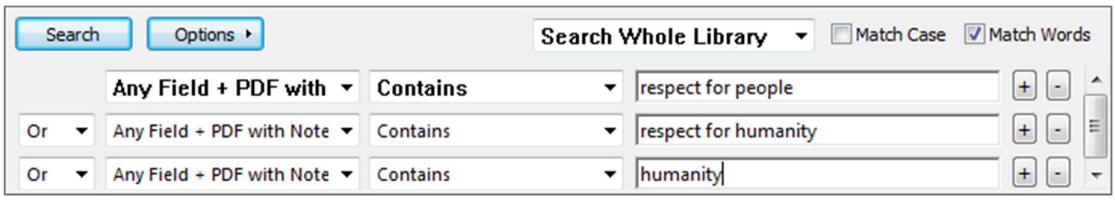
This search revealed five references containing this phrase. A fourth search formula was then developed:

'Any Field + PDF with' Contains 'humanity'

This revealed ten references containing the word humanity.

Finally, a fifth search was developed to capture a complete list by combining the three searches above into one to eliminate duplicate entries.

'Any Field + PDF with' Contains Respect for People OR 'Any Field + PDF with' Contains 'respect for humanity' OR A third search of 'Any Field + PDF with' Contains 'humanity'



Appendix B – References to Respect for People in the Lean Literature in Chronological Order

SUGIMORI, Y., KUSUNOKI, K., CHO, F. & UCHIKAWA, S. 1977. Toyota production system and kanban system materialization of just-in-time and respect-for-human system. *International Journal of Production Research*, 15, 553-564.

OHNO, T. 1988. *Toyota production system - beyond large-scale production.* Cambridge, Massachusetts, Productivity Press.

SHERIDAN, J. 1992. Organizational culture and employee retention. *Academy of Management Journal,* 35, 1036-1056.

DORROH, J. 2003. Respect in the office. *Business Mexico,* 13, 35.

EMILIANI, M. 2004. Improving business school courses by applying lean principles and practices. *Quality Assurance in Education,* 12, 175-187.

HUNTER, S., BULLARD, S. & STEELE, P. 2004. Lean production in the furniture industry: the double D assembly cell. *Forest Products Journal,* 54, 32-38.

EMILIANI, M. & STEC, D. 2005. Leaders lost in transformation. *Leadership & Organization Development Journal,* 26, 370-387.

EMILIANI, M. 2006. Improving management education. *Quality Assurance in Education,* 14*,* 363-384.

EMILIANI, M. 2006. Origins of lean management in America. *Journal of Management History,* 12, 167-184.

BAIRD, K., HARRISON, G. & REEVE, R. 2007. The culture of Australian organisations and its relation with strategy. *International Journal of Business Studies,* 15, 15-41.

DAHLGAARD-PARK, S. & DAHLGAARD, J. 2007. Excellence - 25 years evolution. *Journal of Management History,* 13, 371-393.

SHAH, R. & WARD, P. 2007. Defining and developing measures of lean production. *Journal of Operations Management,* 25, 785-805.

EMILIANI, B. 2008. *The equally important Respect for People principle* [online]. Bob Emiliani. [Accessed 18 February 2016]. Available from: www.bobemiliani.com.

EMILIANI, M. L. 2008. Standardized work for executive leadership. *Leadership & Organization Development Journal,* 29, 24-46.

HINES, P., FOUND, P., GRIFFITHS, G. & HARRISON, R. 2008. *Staying lean - thriving, not just surviving.* Cardiff University, Lean Enterprise Research Centre.

KALMAN, C. 2008. *Successful science and engineering teaching: theoretical and learning perspectives.* McGill University, Springer.

KELLER, R. 2008. Whatever happened to respect for people° *Industry Week,* 257, 14.

BROWNING, T. & HEATH, R. 2009. Re-conceptualizing the effects of lean on production costs with evidence from the F-22 program. *Journal of Operations Management,* 27, 23-44.

SHANAHAN, L. 2009. Respect in the workplace: the journey from understanding to sustaining. *MR75529 M.A.,* Royal Roads University (Canada).

HOUBORG, C. 2010. Implementing a successful lean programme: where do you begin˚ *Pharmaceutical Technology Europe,* 22, 52-57.

TAUBITZ, M. 2010. Lean, green & safe. *Professional Safety,* 55, 39-46.

BAIRD, K., JIA, K. & REEVE, R. 2011. The relationships between organizational culture, total quality management practices and operational performance. *International Journal of Operations & Production Management,* 31, 789-814.

BADURDEEN, F., WIJEKOON, K. & MARKSBERRY, P. 2011. An analytical hierarchy process-based tool to evaluate value systems for lean transformations. *Journal of Manufacturing Technology Management,* 22, 46-65.

EMILIANI, M. & SEYMOUR, P. 2011. Frank George Woollard: forgotten pioneer of flow production. *Journal of Management History,* 17, 66-87.

KULATUNGA, K. 2011. Client's championing characteristics that promote construction innovation. *Construction Innovation,* 11, 380-398.

MARKSBERRY, P. 2011. The Toyota Way - a quantitative approach. *International Journal of Lean Six Sigma,* 2, 132-150.

MICHAEL, M. & GEERT, H. 2011. The evolution of Hofstede's doctrine. *Cross Cultural Management: An International Journal,* 18, 10-20.

ALVES, A., DINIS-CARVALHO, J. & SOUSA, R. 2012. Lean production as promoter of thinkers to achieve companies' agility. *The Learning Organization*, 19, 219-237.

FLUMERFELT, S., SIRIBAN-MANALANG, A. & KAHLEN, F., 2012. Are agile and lean manufacturing systems employing sustainability, complexity and organizational learning˚ *The Learning Organization,* 19, 238-247.

MARKSBERRY, P. 2012. Investigating 'The Way' for Toyota suppliers. Benchmarking, 19, 277-298.

MOYANO-FUENTES, J. & SACRISTÁN-DÍAZ, M. 2012. Learning on lean: a review of thinking and research. *International Journal of Operations & Production Management,* 32, 551-582.

PUTNIK, G. & PUTNIK, Z. 2012. Lean vs. agile in the context of complexity management in organizations. *The Learning Organization,* 19, 248-266.

ZARBO, R. 2012. Creating and sustaining a lean culture of continuous process improvement. *Am J Clin Pathol,* 138, 321-326.

EMILIANI, M. & EMILIANI, M. 2013. Music as a framework to better understand lean leadership. *Leadership & Organization Development Journal,* 34, 407-426.

MALONE, P. 2013. Executive Interview. *Journal of Applied Management and Entrepreneurship,* 18, 119-133.

MEYBODI, M. 2013. Alignment of strategic benchmarking performance measures: a lean manufacturing perspective. *Advances in Competitiveness Research,* 21, 14-28.

SUÁREZ-BARRAZA, M., RAMIS-PUJOL, J. & DAHLGAARD-PARK, S. 2013. Changing quality of life through the personal kaizen approach: a qualitative study. *International Journal of Quality and Service Sciences,* 5, 191-207.

MUZYKA, D. 2014. The importance of core values. *Research Technology Management,* 57, 64.

BALLE, M. 2014. 7 steps for leading lean with respect for people. *Industry Week (Sep. 16, 2014).* Cleveland: Penton Media, Inc., Penton Business Media, Inc.

DEBUSK, G. & DEBUSK, C. 2014. The case for lean accounting: part v - the closing argument. *Cost Management,* 28, 29-34.

DOMBROWSKI, U. & MIELKE, T. 2014. Lean leadership – 15 Rules for a sustainable lean implementation. *Procedia CIRP,* 17**,** 565-570.

DROTZ, E. & POKSINSKA, B. 2014. Lean in health care from employees' perspectives. *Journal of Health Organization and Management,* 28, 177-95.

HIRD, L. & NOAKES, G. 2014. Implementing lean for non-profits. *Non-profit World,* 32, 4-6.

JADHAV, J., MANTHA, S. & RANE, S. 2014. Exploring barriers in lean implementation. *International Journal of Lean Six Sigma,* 5, 122-148.

DIBIA, I., DHAKAL, H. & ONUH, S. 2014. Lean 'leadership people process outcome' (LPPO) implementation model. *Journal of Manufacturing Technology Management,* 25, 694-711.

KOSUGE, R. 2014. The Integration of lean and socio-technical practices in Sweden. *Annals of Business Administrative Science,* 13, 255-269.

LJUNGBLOM, M. 2014. Ethics and lean management - a paradox˚ *International Journal of Quality and Service Sciences,* 6, 191-202.

MAZZOCATO, P., THOR, J., BÄCKMAN, U., BROMMELS, M., CARLSSON, J., JONSSON, F., HAGMAR, M. & SAVAGE, C. 2014. Complexity complicates lean: lessons from seven emergency services. *Journal of Health Organization and Management,* 28, 266-88.

LAM, M., O'DONNELL, M. & ROBERTSON, D. 2015. Achieving employee commitment for continuous improvement initiatives. *International Journal of Operations & Production Management,* 35, 201-215.

MIRDAD, W. & ESEONU, C. 2015. A conceptual map of the lean nomenclature: comparing expert classification to the lean literature. *Engineering Management Journal,* 27*,* 188-202.

PACHECO, D., PERGHER, I., VACCARO, G., JUNG, C. & TEN CATEN, C. 2015. 18 comparative aspects between lean and six sigma. *International Journal of Lean Six Sigma,* 6, 161-175.

VASCONCELOS, A. 2015. The spiritually-based organization: a theoretical review and its potential role in the third millennium. *Organização Baseada na Espiritualidade: Uma Revisão Teórica e seu Potencial Papel no Terceiro Milênio. Cadernos* EBAPE.BR, 13, 183-205.

BORTOLOTTI, T., BOSCARI, S. & DANESE, P. 2015. Successful lean implementation: organizational culture and soft lean practices. International Journal of Production Economics, 160, 182-201.

COETZEE, R., VAN DER MERWE, K. & VAN DYK, L. 2016. Lean implementation strategies: how are the Toyota Way principles addressed˚ South African Journal of Industrial Engineering, 27, 79-91.

GUPTA, S., SHARMA, M. & SUNDER, V. 2016. Lean services: a systematic review. *International Journal of Productivity and Performance Management,* 65**,** 1025-1056.

SHARMA, V., DIXIT, A. & QADRI, M. 2016. Modeling lean implementation for manufacturing sector. *Journal of Modelling in Management,* 11**,** 405-426.

SNYDER, K., INGELSSON, P. & BÄCKSTRÖM, I. 2016. Enhancing the study of lean transformation through organizational culture analysis. *International Journal of Quality and Service Sciences,* 8**,** 395-411.

CAMUFFO, A., DE STEFANO, F. & PAOLINO, C. 2017. Safety reloaded: lean operations and high involvement work practices for sustainable workplaces. *Journal of Business Ethics,* 143**,** 245-259.

HÅKANSSON, M., HOLDEN, R., ERIKSSON, A. & DELLVE, L. 2017. Managerial practices that support lean and socially sustainable working conditions. *Nordic Journal of Working Life Studies,* 7**,** 63-84.

KALTENBRUNNER, M., BENGTSSON, L., MATHIASSEN, S. & ENGSTROM, M. 2017. A questionnaire measuring staff perceptions of lean adoption in healthcare: development and psychometric testing. *BMC Health Services Research,* 17.

LOSONCI, D., KÁSA, R., DEMETER, K., HEIDRICH, B. & JENEI, I. 2017. The impact of shop floor culture and subculture on lean production practices. *International Journal of Operations & Production Management,* 37**,** 205-225.

RANDHAWA, J. & AHUJA, I. 2017. 5S - a quality improvement tool for sustainable performance: literature review and directions. *The International Journal of Quality & Reliability Management,* 34**,** 334-361.

VAN DUN, D., HICKS, J. & WILDEROM, C. 2017. Values and behaviors of effective lean managers: mixed-methods exploratory research. *European Management Journal,* 35**,** 174-186.

Appendix C - Interview Guide

Introduction

Remind respondent of the purpose of the interview; no obligation to answer all questions; limits of confidentiality. Ask to sign consent form and for permission to record.

Above all, relax and enjoy the opportunity to share your experiences!

Prior to Interview

1. Determine length of service at the company from payroll records.

INTERVIEW QUESTIONS

Background

1. Please describe your current role at the company.

2. Please describe any previous roles you have had at the company.

3. Please describe your role(s) at other companies prior to The company.

4. At what age did you begin your work career?

(1) What does Lean mean to employees in the company?

1. Where have you experienced Lean?

2. How did you come to learn about Lean?

3. Can you describe in your own words what the term ‘Lean’ means to you?
    a. Where did you learn about Lean?
    b. Who taught you about Lean?

4. What is your opinion of Lean?
    a. where did you learn about Lean?
    b. who taught you about Lean?

5. What has been the impact of Lean on your job?
    a. Why do you say that?
    b. Why did this opinion develop?
    c. Where did this opinion develop?
    d. What would change your opinion?

6. What do you think is important when implementing a Lean tool?
    a. What have you seen work well?
    b. What have you not seen work well?

7. Can you think of an example of a successful use of a Lean tool at the company?
    a. How did this opinion develop?
    b. Why did this opinion develop?
    c. Where did this opinion develop?
    d. What would change your opinion?

8. Can you think of an example of a poor use of a Lean tool at the company?
    a. Why was this successful?
    b. What does that mean for the company?
    c. Are there more examples?

9. What would help sustain Lean at the company?
    a. Why do you think that?

10. If you could lead a Lean activity, what would you do?
    a. Why this activity?
    b. How would you generate respect for people in this activity?

(2) What does Respect for People mean to employees at the company?

1. What comes to mind when I mention term Respect for People?
    a. Have you heard of this term before?
    b. If so, where, and what where you doing?

2. What do you think Respect for People means to people at the company?
    a. describe how you are respected at the company?
    b. describe how you are disrespected at the company?

3. Can you think of an example where you were respected during a Lean exercise here at the company?
    a. Describe the situation?
    b. What was the Lean exercise?
    c. How were you respected?

4. What did this feel like?
    a. Did this make you feel important?
    b. What change in behaviour did this prompt?

5. What did you enjoy the most about it?
    a. Motivation?
    b. Results?

6. What is the impact on the company when you feel respected in a Lean exercise?
    a. Is there something that could measure the impact?

7. What did you learn from this example?
    a. What do you remember from this example?

8. What would you want others to learn from this experience of being respected?
    a. What would you teach others about this?

(3) Does Respect for People help facilitate the implementation of Lean methodologies?

1. Would respect for people help with making changes at the company?
    a. what should we be doing at the company to help with respect?
    b. What should we stop doing at the company to avoid disrespect?

2. How might Respect for People and Lean activities work together?
    a. What would be the benefits?
    b. How would that change your job?

3. What would help to sustain the concept of Respect for People at the company?
    a. what should we be doing at the company?
    b. What should we stop doing at the company?

4. Can you think of an example where you were not respected during a Lean exercise?
    a. describe the situation?
    b. what was the Lean exercise?
    c. how were you disrespected?

5. What did this feel like?
    a. how did this make you feel?
    b. how did you react?

6. What did you dislike the most about it?

a. what sticks in your mind?
b. what upset you the most?
c. what would you have done differently?

7. Describe the impact on the company when you feel disrespected in a Lean exercise?
    a. is there something that could measure the impact?

8. What did you learn from this example?
    a. what do you remember from this experience?

9. What would you want others to learn from this experience?
    a. what would you tell others to do?
    b. what was important for you in this situation?

Closing Questions

1. What advice would you share with others who are beginning their Lean journey?

2. Is there anything we haven't covered that you want to say about Lean or Respect for People?
    a. Did we miss anything?

Supplementary Notes Post Interview

Appendix D - Participant Invitation Letter

Study title:

'Key cultural characteristics that impact the adoption of Lean methodologies in a job shop environment.'

My name is Brian Sloan and I am a doctoral student from the School of Business at Edinburgh Napier University. As part of my degree course, I am undertaking a research project for my dissertation.

This study will explore the meaning of Respect for People in a Lean environment.

The findings of the project will be valuable in developing a deeper understanding of cultural factors that are important when implementing lean tools at the company.

I am looking for volunteers to participate in the study who have current Lean experiences at the company or Lean experiences at previous places of employment. I am interested in your perception of Lean, your experiences with Lean, and the impact people have on Lean.

If you agree to participate in the study, this researcher will take all reasonable care to protect the anonymity of each participant. Your name will be replaced with a participant number or a pseudonym, and it will not be possible for you to be identified in any reporting of the data gathered. All data collected will be kept secure and only the researcher and his supervisor will have access to it. The semi-structured interview will take no longer than 1 hour. All data will be collected by audio tape, notes and other documentation that each participant wishes to submit. All data will become the property of the researcher. There may be the opportunity for one or more follow-up interviews. The use of this data will be used only for the purpose of generating a study for the researcher. It is possible that the researcher could develop journal articles for publication in the future from this study for an academic journal.

Each participant will have the opportunity to review their transcript at any time. You will be free to withdraw from the study at any stage. You do not have to give a reason and it will not affect treatment in the workplace.

If you have read and understood this information sheet, any questions you had have been answered, and you would like to be a participant in the study, please now see the consent form.

Edinburgh Napier University
74 Canaan Lane, Edinburgh EH9 2TB
13 Crewe Road South, Edinburgh EH 4 2LD

Appendix E - Sample Consent Form

Study title:

'Key cultural characteristics that impact the adoption of Lean methodologies in a job shop environment.'

I have read and understood the information sheet and this consent form. I have had an opportunity to ask questions about my participation.

I understand that I am under no obligations to take part in this study.

I understand that I have the right to withdraw from this study at any stage without giving any reason.

I agree to participate in the study.

Name of participant:

_____

Signature of participant:

_____

Signature of researcher:

_____

Date: _____

Contact details of the researcher:

Name of researcher: Brian Sloan

Address: Edinburgh Napier University
74 Canaan Lane, Edinburgh EH9 2TB
13 Crewe Road South, Edinburgh EH 4 2LD

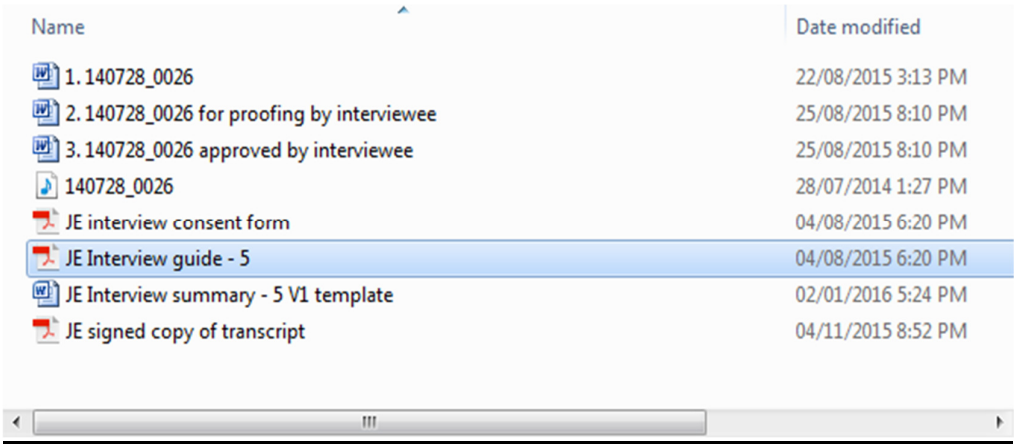
Appendix F - Research Methodology Process Checklist

1. Select a volunteer submission and establish a meeting date for the interview.
2. Print a consent form and an interview guide ahead of the interview.
3. Lay out the consent form, interview guide on the desk of the designated office.
4. Set up the recorder before the interview.
5. Meet with the participant at noon in the designated office (researcher's office).
6. Remind the participant again of the voluntary nature of the interview and of his right to withdraw at any time in the process.
7. Ask the participant to sign the consent form.
8. Test the audio recording equipment with a few seconds of recording.
9. Advise the participant that the interview is beginning.
10. Activate the recorder.
11. Greet the participant and thank him for participating in the study.
12. Conduct the interview and make notes in the interview guide, following the general sequence of questions in the guide.
13. Thank the participant at the conclusion of the interview.
14. Turn off the audio recorder.
15. Pack up the papers and audio recorder.

At home in the office:

16. Scan the interview guide into a pdf. Place the pdf in a designated file folder by participant on the researcher's laptop.
17. Transfer the audio file to the same designated file folder.
18. Open the *f4transkript* software and import the audio file.
19. Begin transcribing the interview. This might take two or three sessions over a few days to complete the transcription. Total hours to transcribe an interview will range from six to eight hours. After each session save the transcription as a rich text format Word document.
20. Wait at least one day and then review the completed transcript for transcribing errors. There are always misheard errors to correct.
21. At the end of the second pass, run spell check to find grammatical errors.

22. Save the file as an original indicated by 1. Followed by the audio recorder assigned name; for example, “1. 140728_0026.”
23. Save as second file as “2. 140728_0026 for proofing by participant”.
24. Print the second interview file. Place the paper copy inside of a plain 8” x 11” manila envelope and ask the participant to read the transcript for authenticity. Was the conversation captured as recollected by the participant?
25. Ask the participant to return the transcript signed on the last page if he agrees that it accurately represents the conversation of both parties.
26. Scan the interview into the designated interview file folder on the researcher’s laptop. Read for any changes marked in ink by the participant and update the original electronic Word file. A few participants may ask for small changes. Save the amended file as ‘3. 140728_0026 approved by participant’. The multiple files and naming conventions will indicate what stage each interview process is at. A completed file folder example should look like this:



27. Import the file into *f4analyse*. The file is now ready for data analysis.