AN EXPLORATION OF HOW A CONTINUOUS IMPROVEMENT INITIATIVE SURFACES SOCIAL EXCHANGE DYNAMICS AND CONSEQUENTLY EMPLOYEE ENGAGEMENT

By

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Ethical Declaration

I declare that this thesis is wholly my own work except where I have made explicit reference to the work of others. I have read the DBA guidelines and relevant institutional requirements. I have discussed, agreed, and complied with whatever confidentiality or anonymity terms of reference were deemed appropriate by those participating in the research and dealt appropriately with other ethical matters arising.

I have uploaded the entire thesis on one file to Turnitin on Moodle, examined my 'Similarity Report' by viewing the detail behind the overall 'Similarity Index', and have addressed any matches that exceed 3%. I have made every effort to minimise my overall 'Similarity Index' score and the number of matches occuring.

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Noel Hennessey   Date

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Man's search for meaning is the primary motivation in his life.

(Frankl, 1985)

Abstract

This research seeks to explore whether a continuous improvement initiative can create a process of social exchange which is conducive to stimulating employee engagement. It is the researcher's contention that when organisations engage their employees in continuous improvement activity, it provides an environment which creates a process of reciprocity through social exchange between the employee and their manager, which in turn stimulates employee engagement. The research aim for this study is, '*To explore whether a continuous improvement initiative could potentially create a process of social exchange which is conducive to stimulating employee engagement'*. The study took place in Lake Region Medical, an Integer Company based in the South East of Ireland where the author is employed as Continuous Improvement Director. Preliminary interviews with twenty members of the company's team leader and manager groups were carried out in March 2016 using an interview template underpinned by the critical incident technique. A second round of interviews took place in July 2016, and a short third round of clarification interviews were undertaken in August 2016. Thematic analysis was employed with the aid of NVivo 10 qualitative analysis software.

This study has empirically substantiated Saks (2006) suggestion that employee engagement can be better understood in terms of social exchange by demonstrating that social exchange is intrinsically tied to how employee engagement is created, and also by identifying that continuous improvement is a major catalyst to stimulating social exchange and employee engagement dynamics. The study also identified how the continuous improvement process can be a positive and fulfilling experience for employees by highlighting the psycho-social dimensions of the process.

Keywords: Continuous Improvement, Employee Engagement, Reciprocation, Social Exchange.

Table of Contents

x

xi

List of Tables

List of Figures

Section 1: Introduction and DBA Overview

Overview

At the heart of this study was the researcher's concern about the number of observed employees who were not engaged with their organisations. As a Continuous Improvement Director, this concern drew the researcher into the employee engagement literature, wherein he found that organisations worldwide report less than one in three employees are engaged in their work (BlessingWhite, 2013; Gallup, 2013). The benefits that a fully engaged workforce can offer to organisations is well established (Metha and Metha, 2013; Savolainen, 1999), with many researchers calling for new workplace interventions to engage disaffected employees. (Saks, 2006; Saks and Gruman, 2004; Truss *et al*., 2013).

In the literature, the researcher was also drawn to the fact that while Saks (2006) presented social exchange theory as an appropriate framework through which to explore employee engagement, the nature of the relationship has not been sufficently explored in the literature. Furthermore a potential relationship between continuous improvement and social exchange has been overlooked. This significant insight grew into a catalyst for the current exploratory study, which is focused on social exchange theory, within the context of the continuous improvement process, employee engagement, and the inter-relationships between these three elements. Social exchange theory describes the factors that influence how individuals interact within a reciprocal relationship. In this study, the researcher will explore whether a social exchange developed through a continuous improvement process and what were the catalysts within this process that initiated the social exchange. The relationship between the social exchange and employee engagement will then be examined to see whether the linkages between the continuous improvement process and social exchange were conducive to stimulating social exchange.

Before presenting his research question and objectives the researcher will firstly provide a background to the study.

Case Study Background

The study will be conducted at Lake Region Medical, an Integer Company in New Ross, Co. Wexford where the researcher is employed as the Continuous Improvement Director. Lake Region Medical, opened its Irish facility in 1994 with 15 employees to supply guide wires to its European customers for use in medical procedures. Over twenty years later, the New Ross site employs over 750 people and is the largest guide wire manufacturing plant in the world, shipping >30 million guide wires annually to over 30 countries. In June 2012, Lake Region Medical New Ross became the first Medical Device Manufacturer in Europe to receive Shingo[1] accreditation (Irish MedTech Association, 2012) and later that year was awarded the title of Irish MedTech Company of the year. These awards highlighted the company's strengths in both the areas of employee engagement and continuous improvement.

Guide wire manufacturing is a very complex and labour intensive process which is why continuous improvement has been a major element of the company's manufacturing strategy since 2003. In 2004, to support this strategy a separate continuous improvement group was established to promote a culture of continuous improvement within the company. While the company's continuous improvement program includes a wide range of tools and systems, it is the 8 step problem solving process[2] that the researcher has chosen as the critical incident on which to base the data collection. To date, the company has trained over 350 employees in the 8 step problem solving process and it has proven to be one of the most popular and effective continuous improvement tools in the organisation.

The challenges that prompted the company to adopt a continuous improvement philosophy are still as relevant today as they were in 2003. The past decade has witnessed a series of acquisitions and mergers resulting in fewer, but larger medical device and healthcare companies, who demand year-on-year cost reductions from suppliers such as Lake Region Medical. Therefore in order to remain competitive, companies have to find

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[1] The Shingo Prize for Operational Excellence is an annual award given to organisations worldwide by the Shingo Institute, part of the Jon M. Huntsman School of Business at Utah State University.
[2] A scientific problem solving methodology popularised by the Toyota Motor Company.

ways to contain increases in salaries, raw materials, and utilities as these costs cannot be passed onto customers. To meet this challenge, part of the business strategy at Lake Region Medical has been centred on developing a culture where employees are engaged in the continuous improvement program and are trained in the use of continuous improvement tools. In this environment, identifying and removing all types of waste (non-value-adding activities) becomes a part of the normal daily routine for employees. This leads to more value for Lake Region Medical's customers as costs are reduced or contained, and quality and customer service improves.

The background above provides a context for the literature surrounding the three conceptual pillars which form the basis of this study: Employee Engagement, Social Exchange Theory, and Continuous Improvement. This literature will now be introduced.

Employee Engagement

There is extensive academic literature and practitioner commentary advocating the benefits of employee engagement for organisations. It is generally accepted that increased engagement delivers a competitive advantage which is predicted to improve financial performance (Konrad, 2006; Macey and Schneider, 2008; MacLeod and Clark, 2009; Robertson and Cooper, 2010; Salanova *et al.,* 2005; Shuck *et al.,* 2011; Truss *et al*., 2013). However in practice, employee engagement levels have over the past decade remained disappointingly low (Robertson and Cooper, 2010) with organisations worldwide reporting less than one in three employees engaged in their work (BlessingWhite, 2013; Gallup, 2013).

According to Saks (2006: 602) engagement in the academic literature has been defined as 'a distinct and unique construct that consists of cognitive, emotional and behavioural components that are associated with individual role performance'. However, for the purpose of this research which explores the connection between continuous improvement and employee engagement, the researcher has adopted the definition used by MacLeod and Clark (2009) in their report to the U.K. government and cited by Truss *et al*., (2013);

> Engagement is about creating opportunities for employees to connect with their colleagues, managers and wider organisation. It is also about creating an environment where employees are motivated to connect with their work and really care about doing a good job … It is a concept that places flexibility, change and continuous improvement at the heart of what it means to be an employee in the twenty-first century workplace.
>
> (Truss *et al*., 2013: 197).

There is general agreement that high levels of engagement are characterised with increased contribution, higher levels of discretionary effort, and increased job satisfaction and wellbeing (Christian *et al.*, 2011; Kahn, 1990; 1992; Saks, 2006; Shuck *et al*., 2011; Truss *et al*., 2013; Welch, 2011). Increased engagement can provide positive outcomes for both organisations and employees alike. When employees become engaged they bring increased vigour, interest and dedication to their work and are also less inclined to leave, all of which increases organisations competitiveness and profitability (Bakker *et al*., 2008). Employees also benefit as a result of developing new skills, knowledge and influence which makes their work more enjoyable, interesting and fulfilling (Konrad, 2006).

According to Truss *et al*. (2013), it was Kahn (1990) who first brought engagement to the attention of social psychologists, and he who highlighted that there is not a single model which provides the "one size fits all" answer with regard to employee engagement. This is illustrated by the fact that engagement initiatives which prove successfully in one organisation will not necessarily work in another (Metha and Metha, 2013). This is why to be effective an engagement model must have a certain degree of flexibility or adaptability to the local environment (Kinnie *et al.*, 2005; Kular *et al.,* 2008; O'Neal and Gebauer, 2006). It is clear therefore that employee engagement remains a complex concept with the need for further research around the area being long overdue (Metha and Metha, 2013; Robinson *et al.,* 2004). In this study the researcher explores the relationship between the continuous improvement process and social exchange, while also seeking to understand if there is any corresponding linkage with employee engagement.

Social Exchange Theory

To understand why some people are engaged in their work while others remain unengaged or indeed disengaged one can look to social exchange theory. Social exchange theory has evolved over time to explain the establishment, reinforcement and on-going maintenance of interpersonal relationships in organisations (Eisenberger *et al*., 1990; 1997). Importantly in relation to employee engagement, social exchange theory provides a basis for understanding the relationship between employees and their organisations (Eisenberger *et al*., 1997; Shore *et al*., 2009). In exploring the relationship between social exchange theory and employee engagement, Saks (2006) puts forward the suggestion that obligations are built up through a series of interactions between parties who are in a reciprocal relationship.

George Homans (1958), who is considered the originator of social exchange theory (Cropanzano and Mitchell, 2005), hypothesised that the development of human relationships is based on an internalised effort versus reward analysis carried out by each individual. This analysis is based on three assumptions. Firstly that people behave in a rational way and make decisions accordingly; secondly that these rational decisions are based on the perceptions of likely net gain and finally, that net gain is based on internally perceived gain minus perceived effort. Social exchange theory is therefore based on the fundamental principle that exchange in a relationship has to be of mutual benefit (Blau, 1964; Eisenberger *et al.,* 1997; Gouldner, 1960; Homans, 1958; Mitchell *et al.*, 2012).

In the context of social exchange theory, reciprocation is the process by which an individual who receives a benefit feels obliged to return the favour. According to Lynch *et al*. (1999) within a work context the relationship can be seen as a trade-off effort on the part of the employees for benefits provided by the employer. Employers as a rule see a value in having their employees fully engaged as it demonstrates loyalty, commitment, and dedication which can deliver positively in terms of performance and discretionary effort (Kular *et al.,* 2008; Macey and Schneider, 2008; Saks, 2006). Employees in contrast see the rewards of being valued by the organisation, through improved pay and conditions, as well as through less tangible benefits such as access to information and respect. It is through the norms of reciprocity that employers and employees can

reconcile opposing positions (Rhoades and Eisenberger, 2002). The researcher will now provide some background to the concept of continuous improvement which is the third and final pillar which forms the basis for this study.

Continuous Improvement

While the concept of continuous improvement comes in many forms, for the purposes of this study the researcher has adopted the definition proposed by Bhuiyan and Baghel (2005) that continuous improvement is a cultural phenomenon where all employees work together to eliminate waste in systems and processes in the organisation. What makes this definition most appropriate in the context of this research is that it encapsulates both the systems and the human elements of the continuous improvement process, which are both in the researcher's opinion, fundamental requirements for a successful continuous improvement program.

The fundamental reason that organisations implement continuous improvement initiatives is to improve their performance, create a competitive advantage, and increase profitability (Bessant *et al*., 2001; Bhasin and Burcher, 2006; Bhuiyan and Baghel, 2005; Hines *et al*., 2004; Jørgensen *et al*., 2007; Savolainen, 1999). When implementing continuous improvement initiatives organisations have at their disposal a wide portfolio of continuous improvement tools, including for example run charts and error proofing devices; as well as systems such as standard work, total productive maintenance and scientific problem solving (Bhuiyan and Baghel, 2005; Bicheno and Holweg, 2008).

Continuous improvement activities require the involvement of employees (Bessant *et al*., 2001; Bhasin and Burcher, 2006; Hines *et al*., 2004) and it is recognised that this can serve to stimulate new skills and learning, which contributes to their personal development (Eisenberger *et al.,* 1990: Levinson, 1965; Rhoades *et al.,* 2001) and increases their job satisfaction (Allen *et al.,* 2003). It is the psycho-social benefits arising from the employees' involvement in continuous improvement that the researcher suggests are linked to the creation of a social exchange between themselves and their manager.

Research Justification

As far as the researcher can determine the relationship between continuous improvement and social exchange has not yet been explored in the relevant literature. The relationship between social exchange and employee engagement has been highlighted (Alfes *et al.*, 2013; Jose and Mampilly, 2012; Purcell, 2014; Saks, 2006; Shuck *et al.,* 2011) but there is potential to explore the interconnections further The researcher in this study proposes a connection between the continuous improvement process and the process of social exchange, which in turn may have an impact on perceived employee engagement.

The current study suggests that the continuous improvement process contains an environment conducive to stimulating social exchange. Factors such as having a supportive leader (Konovsky and Pugh, 1994); the opportunity to develop and acquire new skills and knowledge (Memon *et al*., 2016); and having a sense of being recognised (Shore *et al*., 2009) may stimulate feelings of loyalty, trust and a desire to reciprocate (Eisenberger *et al*., 1997; 2010; Gruman and Saks, 2011). These are elements normally associated with social exchange.

If social exchange is found, the study will also explore what elements within the continuous improvement process contribute towards the stimulation of the social exchange and how the interaction between the continuous improvement process and social exchange takes place. Furthermore Saks (2006) suggests that obligations resulting from social exchange are manifested through increased engagement with the organisation. The study will explore the linkages between social exchange in the context of the continuous improvement process, and employee engagement. As this is an exploratory study the researcher will not be looking to establish a direct connection between the continuous improvement process and employee engagement. Instead, the researcher will seek to explore whether the employees themselves perceive themselves to be engaged as a result of involvement within the continuous improvement process and the suggested ensuing social exchange. Perceptions of engagement will be sought in the forms of increased job satisfaction, greater contribution and higher discretionary effort (Kahn, 1990; Konrad, 2006; Saks, 2006). The current study therefore proposes that the continuous improvement process can act as a catalyst to stimulate a process of social

exchange and the interaction which ensues, may in turn impact on employee's perceptions of employee engagement.

Research Question, Aim and Objectives

Based on the above justification, the study proposes to explore the research proposition that when employees become involved in continuous improvement programs, it may stimulate a process of social exchange, which in turn may lead to a perception of increased engagement. Based on this proposition, the research question is as follows;

Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?

Constructed on this research question, the research objectives are as follows:

1. To consider the existence of social exchange within the context of the continuous improvement activity.
2. To establish the elements within the continuous improvement activity that contributed to a sense of exchange and to identify how these elements contributed to the emergence of the social exchange.
3. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

Relationship to Professional Practice

The enormity of the knowledge gathering journey undertaken by the researcher is best illustrated by the fact that before commencing this study four years ago he had never been aware of the existence of social exchange theory. What he did have however was more than thirty years of management experience, the majority of which was spent at the front line of organisations. During this time what he observed in all of these organisations, was how, when front line employees got the opportunity to become involved in projects such as continuous improvement initiatives outside their normal

duties, many employees flourished as a result of the experience. The researcher felt that the continuous improvement process was therefore meeting many of the psycho-social needs of employees within the organisation; however it was difficult to determine why and how this was occurring. Employees also informally expressed a greater interest in the work they were performing, in the organisation itself, and in increased satisfaction at work. It also led to some of these employees using this experience as a platform for career advancement. These factors he felt were linked in some way to employee engagement. While the researcher felt that engagement was taking place in the organisation, he could not explain how this was happening. Using the above, albeit, intuitive knowledge that he had garnered, the researcher has employed a strategy of utilising project involvement as a means of engaging employees in an ad hoc manner throughout his career.

Potential Contributions from this Study

Theoretical Contribution

While social exchange theory has been recognised as a framework to explore employee engagement (Saks, 2006), it has not been fully embraced in this literature to date. By focusing on social exchange in this study the researcher hopes to empirically validate Saks (2006) proposition that employee engagement can be more clearly understood in terms of social exchange, by identifying that social exchange is actually a critical component of employee engagement. Understanding this relationship will lead to an enhanced understanding of how employee engagement actually works.

Because this research is exploring social exchange in a real life setting, it is anticipated that it will also provide an understanding of what goes on inside the 'black box' of social exchange (Cropanzano and Mitchell, 2005). This may be achieved by providing examples of how social exchange is initiated and by identifying the elements within the continuous improvement process which act as stimuli for social exchange.

Methodological Contribution

While the majority of investigators exploring the phenomenon of employee engagement take a quantitative approach (Simpson, 2008), in this study the researcher makes a methodological contribution by adopting an alternative methodology and using a qualitative approach. This decision is based on the researchers belief that what is pivotal to understanding the phenomenon of employee engagement, is learning how contextual issues influence behaviour in the workplace. It is expected that a qualitative approach, supported by thematic analysis will surface rich and meaningful data relating to the interconnected concepts of employee engagement and social exchange. Should this prove to be the case, this may encourage future researchers to employ more qualitative type methodologies when conducting studies on employee engagement.

Practical Contribution

It is hoped that this study will evolve the researcher's knowledge and understanding of whether there actually is a connection between continuous improvement processes and employee engagement and how this linkage is established. Gaining an understanding of the relationship between continuous improvement and employee engagement through the process of social exchange may reveal how a workplace intervention in the form of a continuous improvement initiative can assist in engaging employees. If the connection between continuous improvement, social exchange and employee engagement is established, it has huge implications for organisations as it will provide them with a new workplace initiative to improve engagement, something many researchers believe is long overdue (Saks, 2006; Saks and Gruman, 2014). For practioners, this will provide an insight into how social exchange operates within an organisational context which is important in interpersonal dynamics, and the knowledge gained as to the relationship between continuous improvement, social exchange, and employee engagement can be used when developing future continuous improvement and employee engagement strategies.

Furthermore from an organisational perspective it is also worth noting that should involvement in the continuous improvement processes (which traditionally has been regarded as a cost reduction activity) be linked to employee engagement it will highlight for practioneers that focusing on continuous improvement as a cost reduction activity is overly narrow, and fails to grasp the true significance of its' value to the organisation. Linking continuous improvement and employee engagement will enable practioneers to understand the potentially transformative power of involvement in continuous improvement activities and may lead to a repositioning of continuous improvement activities within the organisation, where it is given a more strategic people orientated focus.

From an applied perspective, it is also hoped that this study will surface how the continuous improvement process impacts upon employees. The study may provide evidence that the continuous improvement process can be acknowledged as an activity with the potential to be meaningful and enjoyable for employees, rather than being recognised as an event purely focused on organisational outcomes. This organisational emphasis has to date been the predominant focus within the literature in this area (Bicheno and Holweg, 2008; Hines *et al.,* 2004).

Methodology

In this section a brief overview of the chosen methodology is provided. This overview begins with an outline of the philosophical position adopted using the methodology selection framework provided by Morgan and Smircich (1980) to stimulate the subjective – objective debate. The researcher's ontological position is that he views reality as a social construct where culture and context are key to understanding what goes on around us (Raskin, 2002). This approach is particularly suited to this study as it involves investigating a phenomenon in the workplace which is unique to each of the research participants.

In selecting the research method, an exploratory case study emerged as being the most suitable for a number of reasons. Case study investigation is particularly suited to

organisational research (Hartley *et al*., 1983; Yin, 2003) because it is concerned with what influences people's behaviour. An exploratory case study is very effective at discovering new context because it enables the researcher to observe the phenomena from a new perspective (Robson, 2002). Exploratory case study research facilitates the researcher in getting to the heart of the research (Eisenhardt, 1989; McCutcheon and Meredith, 1993; Simon *et al.,* 1996; Wallace, 1991) by providing insight into the subject matter.

In determining whether to take a qualitative or quantitative approach within the context of the case study, the researcher followed the prevailing consensus that when the aim is to investigate a particular issue or explore the meaning of people's experience, then a qualitative case study is the preferred strategy (Eisenhardt, 1989; Stake, 1995; Yin, 2003). A singular case study was also the preferred method of research as it can be more insightful than a multiple case study (Llewellyn and Northcott, 2007) through an in-depth focus on one particular research site. It can also provide a platform to build on existing theory by identifying gaps and attempting to bridge them (Siggelkow, 2007).

In the first draft of his methodology paper the researcher had proposed the use of storytelling through interviews as his main method of data collection, as it can be very effective in creating a forum where pertinent facts and rationale about organisational culture and behaviour can be debated (Chase, 2005; Schreyogg and Geiger, 2005). However the researcher revisited the use of storytelling as his method of data collection due to issues regarding its reliability and predisposition toward misinterpretation during analysis (Boje, 1991; Gabriel and Griffiths, 2012) and replaced it with the critical incident technique (Flanagan, 1954) which is widely used in management and service quality literature (Douglas *et al*., 2009; Gremler, 2004; Roos, 2002). Importantly, this technique allows narratives to be collected from the respondent's perspective about the incidents which have most meaning for them, and has the capacity to deliver context-rich data (Chell, 2012; Douglas *et al*., 2009; Gremler, 2004).

As outlined previously, a continuous improvement process can involve the application of a wide variety of systems and tools. The researcher has specifically selected the 8 step problem solving process as the critical incident through which to frame the research

interviews as it is well established within the studied organisation as a continuous improvement tool and all the participants in this research have experience of using it.

While initially it was planned to have all twenty participants selected from Lake Region Medical's team leader group, the researcher became concerned about a lack of variety in perspectives which caused him to reconsider this cohort. This resulted in the inclusion of five members of the management team and a reduction in the number of team leaders involved to fifteen. The addition of the five managers enabled the researcher to get two different perspectives of the same experience: one from the team leader on their involvement in the continuous improvement event, and another from the manager on the same event. It should be noted that in writing this thesis the researcher has employed the masculine when referring in general to the team leader and manager groups, regardless of gender.

Because the data was collected from the respondents in their own words, the researcher elected to use a thematic approach to analyse the qualitative data. According to Creswell (2007) the purpose of thematic analysis is to identify patterns of meaning that can provide an answer to the research question being posed. NVivo 10 software was employed to support the researcher in analysing the transcripts because of its ability to handle large amounts of data in a clear and concise manner that facilitates deep and flexible analysis (Bergin, 2011).

Thesis Structure

This thesis is divided into four sections. In section 1, the researcher provides the background and justification for the research and presents the overall structure of the thesis. In particular the research question and objectives are outlined and a brief summary of the methodology employed and how this study will build on previous research will be addressed is presented. Organisational context and how the research relates to professional practice are also outlined.

Section 2 is the largest section of the DBA thesis, consisting of the following four cumulative research papers:

1. Conceptual Paper;
2. Methodology Paper;
3. Design and Initial Findings Paper;
4. Findings and Discussion Paper.

The papers are prefaced with a short linking narrative which explains the research evolution through the papers. Each paper was presented and assessed by examiners at predetermined intervals throughout the DBA, and each was ultimately 'recommended' by the examination panel. Changes made are partly as a result of reflection on feedback received from the paper examiners, the researcher's DBA supervisors and from contributors at the respective doctoral colloquia, while also reflecting the researcher's continued growth in understanding of both the topic under investigation and the research process itself.

In section 3 of the thesis the researcher will present his discussion of the research question and objectives in light of the findings and relevant literature. A summary of the key findings, insights, and conclusions from the study will be presented. This section will also include the limitations of the study, recommendations for practitioners, theoretical informed contributions to practice and opportunities for further exploration of the topic. Section 4 is composed of extracts from the researcher's reflective log which were compiled over the duration of the DBA.

Conclusion

In this section the researcher began by presenting the background to the research, followed by a brief introduction to the main literature sources on employee engagement, social exchange theory, and continuous improvement. A justification for the research was also provided and the researcher outlined how it related to his own professional practice. The research question and objectives were stated before the researcher outlined the organisational context for the study. The chosen methodology for the research was also discussed with the researcher highlighting his own philosophical position, the research

methods employed for the study and a profile of the research participants. The section concludes with an overview of the overall structure of the DBA thesis.

The next section of this thesis begins with the first paper in cumulative paper series. Paper 1 will mainly address the literature reviewed and the development of a conceptual framework for the study.

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Section 2: Cumulative Paper Series

Preface to Paper 1

This is the first paper submitted as part of a four-paper series, which forms the basis of this thesis, submitted in June 2017 for consideration of the award of Doctorate in Business Administration (DBA) from Waterford Institute of Technology (WIT). The DBA cumulative paper series comprises of four separate papers, moulded over a three year period. During this period the research study has gone through several evolutions. Therefore each paper is an illustration of the researcher's understanding of his study at that particular moment in time.

The purpose of the preface section is to capture the progress and development that occurred throughout the writing of the research papers. In particular how feedback from the various doctoral colloquia, input from the researcher's DBA supervisors, and the researcher's growth in understanding of the research topic and the DBA process, informed subsequent papers. This exercise in reflexivity is a fundamental element of how the DBA program works and is aligned with the thinking of Cassell and Symon (2012) who suggest that reflexivity should be part of the research process to enhance how studies are designed and conducted.

Paper one presents the background to the study, the researcher's review of relevant literature, the aim of the study and the conceptual framework.

In the course of the eight months required to write paper one the focus of the study changed dramatically. The first drafts (which do not form part of this thesis) of paper one envisaged a multiple case-study approach which would investigate employee engagement best practice in six recognised exemplar organisations drawn from the medical device and pharma sectors within Ireland. It was proposed that in-depth qualitative interviews with senior managers from these organisations would be used for the primary research, with the justification being that the study would contribute to the dearth of research on employee engagement within an Irish context and the creation of a best practice framework for organisations. This is reflected in the original research question posed to frame the study;

> *What can be done to improve the level of employee engagement among production associates in the Irish medtech sector?*

26

This paper was initially submitted for review at a doctoral colloquium on the 4th October 2014. A number of points for consideration arose from feedback received at this colloquium.

These included:

- The research gap was not clearly identified.
- The research objectives were too broad instead of being focused on a specific topic within the employee engagement literature.
- The literature review needed to be more critically informed in order to target the research on one specific topic within the employee engagement field.
- The conceptual framework was not derived from what has been written to date on employee engagement.
- The research approach lacked clarity and a complete review was suggested.

Following these comments it became evident that there was a need to refine the research focus, question and approach further. The researcher also realised that his knowledge of research methodology in general and his understanding of the literature in the area were limited.

The researcher decided to revisit the employee engagement literature and to explore this literature in greater depth in order to identify potential avenues for new research. Furthermore he also realised that the initial literature review was overly descriptive and lacked critical focus. This draft went through several iterations and led to the development of a significantly revised paper with a new conceptual framework derived from the literature. The amended paper proposed a single case-study framed around examining a possible connection between continuous improvement, social exchange and employee engagement.

The rationale behind the significant changes between the original and final drafts of paper one can be traced back to the researcher's growth in understanding of social exchange theory. In the early submissions of paper one the researcher did not fully grasp the significant role social exchange would play in this study, as his understanding grew he realised that it would act as a frame on which to hang his study. A wider review of the

social exchange literature as suggested by his academic supervisors resulted in the researcher identifying elements (informed by social exchange theory) within the continuous improvement process which he believed, based on his experience, had the potential to increase engagement. Critical also was learning how to differentiate between the presence of social exchange generally and the presence of social exchange within the context of a continuous improvement related activity.

Developing a comprehensive and deep understanding of the literature was a challenge for the researcher. Despite his experience in reading and writing various types of reports for business related activities, he was initially overwhelmed with the rigour involved in a doctoral study. This was compounded by his reliance on academic papers to expand his knowledge on the proposed topics to gain a basic understanding of the key concepts. This resulted in the researcher reviewing and studying key literature, supporting texts, using on-line tutorials and looking at the approaches used by previous DBA students to comprehend the nuances of a literature review. Undoubtedly the many, many rewrites of paper one and the accompanying feedback enhanced the researcher's academic writing style and his ability to make the paper flow.

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Paper 1: Conceptual Paper

Abstract

Employee engagement is a subject which has been the focus of much academic research carried out over the past twenty five years. Despite this, many organisations are failing to fully engage their employees. While a lot of research has been carried out on employee engagement, to date none has focused specifically on how continuous improvement programs may potentially be used as a platform to accelerate engagement. Lake Region Medical has successfully implemented a process of continuous improvement for the past ten years and the purpose of this study is to explore the relationship between the continuous improvement process and employee engagement. Primary research will be gathered through a combination of focus groups; in-depth interviews, and documentation analysis.

Keywords: Employee Engagement, Continuous Improvement.

Introduction

Despite widespread acknowledgement that employee engagement can help deliver superior organisational results a study of workers in more than 140 countries from 2011 through 2012 found that only 13% are engaged in their jobs (Gallup, 2013:12). In this study engaged employees were defined as those who are:

> Involved in, enthusiastic about and committed to their work, and who contribute to their organisation in a positive manner.

Even more worrying is the fact that disengaged workers, that is those who are passive (and may possibly become antagonistic to their organisations) outnumber engaged employees at a rate of almost two to one (Gallup, 2013). The benefits organisations can achieve by fully tapping into their employees knowledge and talents may be obvious, yet surprisingly very few companies manage to achieve this (Goffee and Jones, 2013). Companies with an engaged workforce achieve higher earnings per share and have the ability to recover from the recession at a faster rate (Blessing White, 2013; Gallup, 2013). The evident poor levels of employee engagement is even more remarkable given the increased pressure on organisations competing for business against competitors in low cost economies and the fact that a fully engaged workforce has the potential to deliver higher operating margins of >17% (Schwartz, 2012). In an Irish context a survey carried out among 400 Irish Business and Employers Confederation (IBEC) organisations in April 2014 identified employee engagement and performance management as one of their priority human resource issues for the coming year (IBEC, 2014).

Employee engagement is however a complex concept with the need for further research around the area being long overdue (Metha and Metha, 2013). Models that have served organisations well in the past are no longer sufficient and most managers now challenge the concept of human resource (H.R.) best practice and are in agreement that there is not a single model which provides the "one size fits all" answer with regard to employee engagement. What works successfully in one company will not necessary work in another, which is why to be effective an engagement model must have a certain degree of flexibility or adaptability to the local environment (Kinnie *et al.*, 2005; Kular *et al.,* 2008; O'Neal and Gebauer, 2006). While a number of researchers have put forward various

models and theories to provide a framework on how to enhance and promote employee engagement, none have given consideration to incorporating a continuous improvement program (Bakker and Demerouti, 2008; Kahn, 1990; May *et al.,* 2004). The researcher finds this omission surprising as continuous improvement programs include a number of antecedents to employee engagement such as the provision of clear leadership, involvement in decision making, training opportunities and relevant rewards and recognition (Konrad, 2006; Metha and Metha, 2013; Saks, 2006). The extent to which individual perceptions align with organisational objectives has huge implications for supervisors and managers who wish to use progressive human resource practices to increase perceived organisational support (Allen *et al.,* 2003).

In this paper the researcher will propose a case study for using a continuous improvement program as a means to accelerate engagement in line with social exchange theory as defined by Eisenberger *et al.* (1997). This study will be based on the extensive continuous improvement work carried out in Lake Region Medical from 2003 to 2014 which has received both national and global acclaim (Irish Development Authority, 2012). It is intended that the results of this study will contribute to the development of academic knowledge by establishing a link between continuous improvement and employee engagement. Also, the fact that the researcher was employed at Lake Region Medical during this period in the position of continuous improvement Director gives him unique access as well as the opportunity to make observations from a practitioner's perspective. It is this perspective that will assist other managers and organisations in the development of their own employee engagement strategies.

This paper begins with a broad discussion around employee engagement, the research conducted in this field and how it can be understood within a social exchange theory context. The researcher then outlines the various elements of a continuous improvement program and its effects on organisations and employees alike before revealing the conceptual framework which suggests a potential synergistic relationship between continuous improvement and employee engagement.

Employee Engagement

In today's increasingly competitive and ever changing environment, organisations are in almost unanimous agreement that the most important factor for achieving ongoing success lies in their ability to harness the full talents of their employees (O'Neal and Gebauer, 2006). This recognition has resulted in many organisations developing and implementing employee engagement systems that link human resource practices and management strategies with the company's financial goals (Dicke *et al.*, 2007; Birdi *et al.*, 2008). According to Truss *et al.* (2014) such is the widespread acceptance of employee engagement it has become the "new best practice" within mainstream human resource management. Saks (2006) notes that despite the fact that employee engagement is a widely used term most of the research carried out to date is to be found in practitioner journals rather than being based on robust empirical research.

Definition of Employee Engagement

When it comes to defining employee engagement there are two very different trains of thought. Some refer to it as a motivational state (initiative and involvement) while others see engagement as a type of performance where the actors (employees) contribute increased energy to their work (Byrne, 2014). The difficulty in understanding employee engagement taxes even the greatest minds with Schaufeli (2006) making the case that when it comes to defining engagement it really depends on what perspective you view it from. For example, recognising that engagement can be a very positive and enlightening work experience is correct but this narrow perspective fails to examine the consequential behaviours and results as noted by Truss et al., (2014);

> Unfortunately, by defining engagement more broadly, its uniqueness is lost because the distinction with other concepts such as extra-role performance and organizational commitment gets blurred.

<div align="right">(Truss et al., 2014: 31).</div>

Truss *et al.* (2013b: 2657) also acknowledges the difficulty in defining engagement and states that its meaning is "susceptible to fixing, shrinking stretching and bending". Konrad (2006) attempts to claify this issue by theorising that employee engagement has

three related segments: a cognitive, emotional, and behavioural aspect. The cognitive aspect relates to the employee's beliefs about the organisation, working conditions and leadership. The emotional aspect is concerned with how employees feel about each of these three factors and their attitude towards the organisation and its leaders i.e. either positive or negative. The behavioural aspect of employee engagement consists of the discretionary efforts which engaged employees bring to their work. This may take the form of increased performance, initiative or improvement suggestions. It is this segment of employee engagement which delivers real value for the organisation. This has echoes of the concept of psychological presence at work put forward more than a decade earlier by Kahn (1990) which has particular relevance for the study being proposed. Kahn (1992) describes employees who draw from within themselves at work as being "fully there" in the sense that all their thoughts, feelings and beliefs are being utilised as they go about their work. Later in this paper the researcher will outline his contention that a continuous improvement program is the perfect vehicle with which to afford employees the opportunity to engage themselves fully.

The need to distinguish between employee engagement and work engagement is explored by Purcell (2014) with work engagement seen as relating to a person's state of mind while at work and employee engagement having a distinct HRM/employee relations perspective. Bakker *et al.* (2008) also stress the need to differentiate between the two. Their preferential term is work engagement as they view this as the relationship between the employee and the work they perform, while employee engagement concerns the relationship between the employee and the organisation. For the purpose of the current study the researcher will adopt the following definition from MacLeod and Clark (2009) as cited by Truss (2014);

> Engagement is about creating opportunities for employees to connect with their colleagues, managers and wider organisation. It is also about creating an environment where employees are motivated to connect with their work and really care about doing a good job…..It is a concept that places flexibility, change and continuous improvement at the heart of what it means to be an employee in the twenty-first century workplace.
>
> (Truss, 2014: 197).

It is how MacLeod and Clark (2009) have managed to capture in a simple and pragmatic way the true spirit of what employee engagement means for all stakeholders in today's working environment that the researcher believes makes it more applicable than the other definitions referenced. Having defined employee engagement above, it is now necessary to explore some of the relevant literature in the area and it will become evident as this literature is reviewed that there appears to be a disconnect between the models which mainly focus on how employee engagement takes place and the drivers to employee engagement which tend to be more practice focused. It is this gap that the proposed study may help to bridge.

Employee Engagement Drivers

Mehta and Mehta (2013) note how the key drivers of employee engagement which are commonly accepted today were formed as a result of major studies carried out by consulting bodies such as BlessingWhite, Gallup, Perrin, the Corporate Leadership Council and others (Gibbons, 2006). These drivers which are highlighted by Rana *et al.* (2014) in their engagement model include an environment of trust and integrity where leaders lead by example and there is a strong sense of teamwork. Other drivers include the work itself, how it is designed, how it is operated and the alignment between work and the organisation's performance. Pride in the company is also an important factor along with employee opportunities for progression and reward and recognition systems.

Other researchers suggest that engagement can be increased by introducing high involvement work practices such as delegating decision making, creating self empowered work groups and involving workers in profit sharing (Konrad, 2009; Nohria *et al.*, 2008). While conducting research for their report on engagement to the British Government MacLeod and Clarke (2009) identified four crucial enablers which are:

- A strong leadership narrative from leadership expressing the missions and vision of the organisation.
- Engaging managers willing to empower their people.

- An effective employee voice.

- Integrity and trust across the organisation.

From the above review the key drivers of employee engagement would appear to be a culture where the dignity and respect of all employees is valued and enlightened leaders who are willing to share responsibility and decision making. What both of these models have in common is that all of the drivers would be triggered or enhanced by the introduction of a continuous improvement program.

Having explored the above drivers it is also necessary that we have an understanding as to how employee engagement has been explored in various forms to date.

Theoretical Support

According to Truss *et al.,* (2014) while there is not one single framework for understanding work engagement a number of theories have been put forward which each take a different perspective, the most popular of which are outlined below.

The Needs-Satisfying Approach

Kahn (1990) sought to find out why people decide to tune in or out (physically, cognitively and emotionally to varying degrees) at work. Kahn (1990) wanted to capture the "moments" when this happened. His findings suggest that people tacitly deal with multiple levels of influence (individual, interpersonal, group, intergroup and organisational) and he examined for what they imply under three headings: meaningfulness (will their efforts be appreciated?), psychological safety (will this affect their relationships and how others view them?) and availability in terms of the amount of extra emotional and physical energy required.

The Affective Shift Model

The affective shift model is based on self regulation and attempts to explain why work engagement can vary across the day or from task to task (Bledow *et al.*, 2011). The model suggests that work engagement will be low if employees are in the default negative affective state and deprived of positive stimuli. While negative affect is not associated with engagement it can play an important self regulatory role by laying the foundation for high work engagement at a later stage (Bledow *et al.*, 2011). Salanova *et al.* (2010) believes that the negative affect triggers awareness that the situation requires attention and motivates employees to engage in developing a solution.

The Job Demands – Resources Model (JD-R)

A popular conceptual framework used to carry out studies on employee engagement is the job demands-resource (JD-R) model (refer to Figure 1) which explores the need to balance the motivational stimuli which the availability of job resources and personal attributes bring to a work environment with increased job demands (Hakanen *et al.*, 2008). The theory behind the JD-R model is that engagement and burnout are opposite ends of the same scale which requires fine tuning so that the resources side is kept challenged by the demands side without becoming overburdened (Salanova *et al.*, 2010). According to Schaufeli (Truss *et al.*, 2014) when it comes to evaluating the various approaches to understanding work engagement the job demands-resource model has received most empirical support.
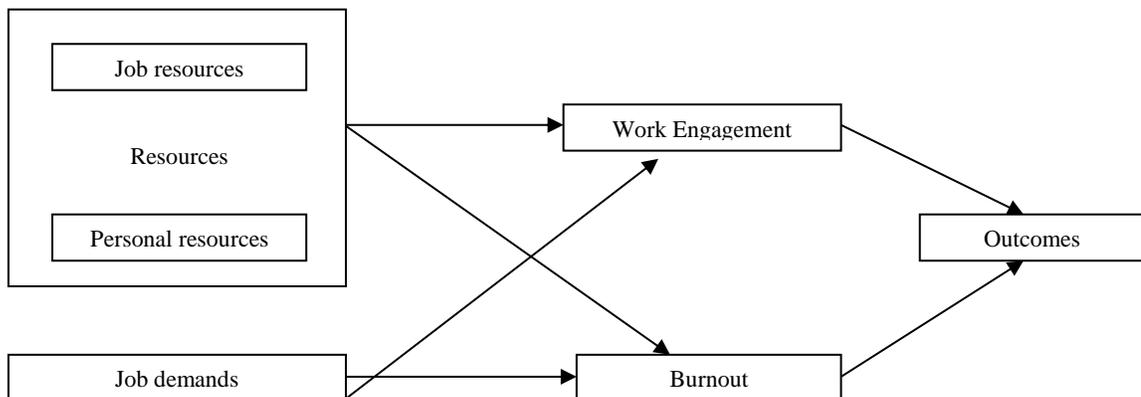
Figure 1: The job demands-resource (JD-R) model

However, none of the three models outlined above are broad enough to frame the proposed study and it is for that reason that the researcher has selected Social Exchange Theory (SET) as a more suitable lens through which to explore employee engagement. In particular the researcher was concerned with the fact that the Needs – Satisfying and Affective Shift models were both based on single studies which were quite narrow in their focus. The issue with the JD-R model is the lack of clarity on what disengagement really is, with Maslach *et al.* (2001) suggesting it is the same as burnout while Kahn (1990) is of the opinion that it is simply low or non engagement.

Social Exchange Theory

Social exchange theory has developed over time to explain the beginning, strengthening, and ongoing maintenance of interpersonal relationships. It provides a possible theoretical basis for understanding the relationship between individuals, (that is employees) and their organisations. (Eisenberger *et al.*, 1997). It offers a theoretical framework to explain what makes some employees engage themselves fully in their work and organisation while others simply choose not to. For this reason the researcher will be using social exchange theory as the underlying theory on which to build his conceptual framework. This approach is supported by Saks (2006) who argues that while much of the research on employee engagement has to date revolved around the area of human resource development with studies by Kahn (1990) and Maslach *et al.* (2001), it can be more clearly understood using social exchange theory.

Jose and Mampilly (2012) propose a conceptual connection based on social exchange theory between employee satisfaction with human resource practices and employee engagement. Employers as a rule value employee loyalty and dedication which delivers positively in terms of performance, attendance and turnover. Employees by contrast see the rewards of being valued by the organisation in terms of improved pay and conditions as well as less tangible benefits such as access to information and respect. The norm of reciprocity allows employers and employees to reconcile these opposing positions (Rhoades and Eisenberger, 2002). The basic tenet of employee engagement is that strong mutually beneficial relationships accrue over a period of time provided certain rules of

38

exchange are adhered to (Kular *et al.*, 2008; Cropanzano and Mitchell, 2005). Saks (2006) explores the relationship between social exchange theory and employee engagement and hypothesises how obligations are built up through a series of interactions between parties who are in a reciprocal relationship. This is consistent with Robinson *et al.* (2004) and their descriptive view of employee engagement as a two way relationship between the worker and the organisation.

Social exchange theory also has implications outside of organisations. When organisations build strong external relationships by (a) providing resources and opportunities, (b) aligning themselves with partners who have similar high standards of corporate values, (c) communicating openly with each other, and (d) availing of opportunities to take advantage of an exchange partner, they reap long-term benefits. This allows them to stay competitive and build a better future for all stakeholders (Morgan and Hunt, 1994). In an eight case study of the most engaged units of the National Health Service in the UK (2014) it was found that line managers had a more significant impact on employee engagement than their senior colleagues and were also the pivotal figures in securing employee input and involvement (Purcell, 2014).

Summary

The researcher has selected social exchange theory as a lens through which continuous improvement can be viewed because it is concerned with what motivates employees and how this relates to the objectives of the organisation (Aselage and Eisenberger, 2003). The strong links between continuous improvement and human resource functions such as recruitment, training and leadership development (Jørgensen and Hyland, 2007) can, in the researcher's opinion, possibly be used to accelerate engagement. In their study Jørgensen *et al.* (2007) also found that organisations which involve their human resource function in developing their continuous improvement strategy have higher levels of continuous improvement maturity. Unfortunately this study did not specify its effect on engagement.

As the researcher outlined earlier in this paper the connection between continuous improvement and employee engagement has been overlooked in the literature and the time is well overdue for this relationship to be explored. In the following section the researcher will define continuous improvement, outline what it means to the organisation and the employee as well as detailing what a continuous improvement program typically entails.

Continuous Improvement

The term continuous improvement refers to organisations where all employees work together to identify and remove all forms of waste and non value adding activities within a business regardless of whether it is a manufacturing or service organisation (Fryer *et al.,* 2007). According to Jørgensen *et al.* (2007) the fundamental reason that companies implement continuous improvement is to improve their performance. The concept of continuous improvement as we understand it today comes under many guises, most notably continuous improvement itself, or Lean Operations but it also encompasses Operational Excellence, Enterprise Excellence, Six Sigma, Kaizen (the Japanese word for a process of continuous improvement according to Singh and Singh (2012)), Total Quality Management (TQM) and the Toyota Production System (TPS) (Liker and Meier, 2006).

Continuous improvement can occur incrementally over a sustained period through the application of systems and tools. This theme is built on by Boer and Gertsen (2003) who maintain that continuous improvement has been superseded by continuous innovation which is an organisation's ability to combine operational effectiveness and strategic flexibility by constantly challenging the status quo. Others see continuous improvement as a quality philosophy that assumes that further improvements are always possible and that processes should be continuously re-evaluated and improvements implemented (McKee, 2009). It would appear however that by taking such a narrow view, both of these perspectives fail to understand that continuous improvement is in fact a broad philosophy which is focused on incorporating a range of best practices including just in time (JIT), cellular manufacturing, and quality systems into one overall management

system (Shaw and Ward, 2003). Shaw and Ward's study of sixteen academic lean production papers by leading lean thinkers, including Bicheno (1989) and Schroeder (2001), identified continuous improvement systems as being an integral element of an overall lean program. This is consistent with the findings of Dahlgaard and Dahlgaard-Park (2006), who concluded that lean production, six sigma, and total quality management were all essentially continuous improvement programs.

For the purpose of this study the researcher will use continuous improvement as a catchall for the various terms used above. The definition of continuous improvement as suggested by Bhuiyan and Baghel (2005), that it is a cultural phenomenon where all employees work together to eliminate waste in systems and processes, will be utilised as it captures both the people (soft) and the systems (hard) elements, which are both fundamental to continuous improvement.

Organisational Benefits

The ability of continuous improvement programs to deliver a more effective operating system through lowering costs, and improving performance and quality is a well established fact (Fryer *et al.*, 2007). Manufacturers and service organisations in particular embrace continuous improvement as an opportunity to deliver a sustainable competitive advantage (Bessant *et al.,* 2001; Bicheno and Holweg, 2008; Melton, 2005). In their review of continuous improvement, Zangwill and Kantor (1998) reference a number of improvement results which bear testimony to the power of continuous improvement. These include examples of increases in productivity of up to 100% without any major capital investment, a view which is supported by Singh and Singh (2012), while Schonberger (1986) maintains that manufacturing cycle time can be improved by a factor of 20. Because the requirement to control costs is fundamental to the survival of most organisations, it is not surprising that these productivity gains have been seen as being the major benefit of implementing continuous improvement (Achanga *et al.*, 2006; Bicheno and Holweg, 2008; Hines *et al.,* 2004; Womack *et al.,* 2008; Shaw and Ward, 2003).

Employee Benefits

In a study to identify what enabled organisations to maintain competitive advantage in a dynamic environment, Grant (1996) singled out knowledge as being the principle productive resource of any organisation, a view also supported by Bessant *et al.* (2001). This is reflected in the fact that companies embarking on a continuous improvement journey will invariably begin by rolling out training on continuous improvement systems and tools across all levels of the organisation. As well as receiving new skills and knowledge to add to their portfolios, many of the employees will at various stages of the continuous improvement implementation get the opportunity to become involved in improvement teams. This affords them an opportunity to showcase their talents which they may not have had before, allowing them to avail of any promotional opportunities which may arise with this new way of managing the business. Organisations that embrace continuous improvement typically require less layers of management as decision making is devolved down the chain of command leading to increased empowerment and ownership (Anand *et al.*, 2012).

It should also be acknowledged that one of the major benefits for employees of organisations that successfully implement a continuous improvement program is security of employment and associated benefits of working for a thriving business (Wickens, 1987). There are, however, some negative associations with continuous improvement programs. If, for example, dramatic increases in productivity are not matched with increased business demand it could lead to a lay off situation. Also, as companies become more efficient some employees will undoubtedly struggle with the pace or standardisation of the work (Garrahan and Stewart, 1992).

The potential that continuous improvement programs possess to improve people's work experience is borne out by the results of a major study involving 236 professionals from 26 project teams who kept daily diaries. When people's best days were compared to their worst, the most important differentiator was the amount of progress that had been made (Amabile and Kramer, 2011). Research findings have also shown that organisations play an important social role in the lives of their employees. Employers have found that tapping into the socio-emotional needs of their employees, for example fulfilment,

respect, or community, can result in greatly increased levels of employee engagement and performance (Armeli *et al.*, 1998; Eisenberger *et al.,* 2001; Lynch *et al.,* 1999). It should be noted however, that employee engagement cannot be left to chance - to be successful it must be incorporated into the organisation's performance management plan the same as any other key process (Gruman and Saks, 2010; Levinson, 1965).

Elements of a Continuous Improvement Program

Organisations that fully embrace continuous improvement will undoubtedly be required to have a robust continuous improvement program. This will form part of their overall corporate or site strategy and will be tailored to meet their specific business requirement. Regardless of what these needs are typical continuous improvement programs will include;

- *Continuous improvement structure and resources*. The number of employees fully employed to support the continuous improvement program will be dependent on the size of the organisation. Lareau (2000) highlights the reporting structure as being very important because it reflects the importance and commitment the organisation and the leadership team places on continuous improvement. Best practice would have the continuous improvement manager or site lead reporting directly to the site leader. However it is not unusual to have the continuous improvement department reporting to either the engineering, quality or production manager. This however can lead to conflict issues as the continuous improvement resources are absorbed into routine business issues to the determent of the continuous improvement program (Mann, 2010).

- *Continuous improvement training schedule*. The training requirements will be largely influenced by what stage the organisation is at on its continuous improvement journey. In the early stages the emphasis will be very much on learning the basic continuous improvement tools such as Kaizen, Total Production Maintenance, or Value Stream Mapping. As the site's continuous improvement knowledge develops, the requirement will progress or evolve to learning about

continuous improvement systems such as Scientific Problem Solving and Standard Work (Bicheno, 2004; Mann, 2010). Because of the nature of continuous improvement, pre-implementation training for all members of the leadership team will most likely include change management and facilitation training (Womack and Jones, 2003).

- *Continuous improvement events program for the coming year*. The traditional method for companies to embark on a continuous improvement journey is by carrying out a number of rapid improvement events or continuous improvement blitzs (Mann, 2010). These events are typically focused either on a small production area or a specific set of machines and are focused on solving routine problems which are causing anxiety and frustration. Typical examples include how work is planned, poor layout or high levels of scrap or rework. The teams consist of between eight to twelve members drawn from different areas and are facilitated by an external continuous improvement consultant over a one to two week period. While these events are very useful in demonstrating to senior management the transformational power of continuous improvement and presenting the members with an opportunity to develop the skills in a practical manner, according to Bicheno and Holweg (2008) they have a limited lifespan.

As an organisation becomes more mature, continuous improvement activity will be formally managed through a structured program of events which are part of the organisation's overall strategy deployment system with time and resources allocated. These will also include ways to foster and communicate the continuous improvement agenda such as articles in a company newsletter, internal awards for best projects and other forms of recognition (Mann, 2010). It is this soft side of the overall continuous improvement program which will help to ingrain the culture required to support a continuous improvement ethos.

It is clear that designing and implementing a continuous improvement program which covers all the various elements is a huge task and requires the full commitment of the

organisation's leadership team in order for it to have the best possible opportunity to succeed.

Continuous Improvement – An Employee Engagement Perspective

Reciprocity is a fundamental part of both social exchange theory and the JD-R model and it is this element which makes continuous improvement an ideal platform to accelerate employee engagement, yet the researcher has been unable to identify any studies which have explored this relationship to date. Properly designed and operated continuous improvement programs, as outlined earlier, invariably lead to employee development, increased job satisfaction and teamwork (Allen *et al.,* 2003). The relationship between the worker and immediate supervisor or manager follows along social exchange theory lines. When a leader provides benefits above the norm (such as reward, recognition or involvement) to the employee, reciprocity comes in to play. In a high quality relationship the employee will not just perform their normal work satisfactorily; rather they will feel obliged to go beyond it (Settoon *et al.,* 1996; Shore and Wayne, 1993; Wayne *et al.,* 1997; Wayne and Green,1993).

The researcher views continuous improvement activity taking place within organisations as a practice which promotes employee engagement. This occurs naturally due to the positive effects which elements of continuous improvement (such as training, team building, and involvement) have on the employees involved. According to Levinson (1965) involvement in continuous improvement activities can serve to stimulate new skills and learning and contributes to the personal development of employees. Eisenberger *et al.* (1990) and Rhoades *et al.* (2001) report an increase in the self esteem of employees who have been involved in helping design innovative solutions.

Proposed Conceptual Framework

Based on an extensive literary review, and his own experiences, the researcher proposes a framework based on social exchange theory which incorporates elements typically found within a continuous improvement program. It is the researcher's suggestion that by

45

implementing a continuous improvement program various activities will be utilised (outlined in Figure 2) which will enhance employee engagement (Eisenberger *et al.,* 1990; Kahn, 1992; MacLeod and Clarke, 2009; Nohria *et al.,* 2008). Provided the continuous improvement program is appropriately structured and managed the success of the initial continuous improvement initiatives may create forward momentum leading to increased activity. This cycle will potentially continue until a tipping point (Gladwell, 2006) is reached and high levels of employee engagement and continuous improvement activity occur (Figure 2).
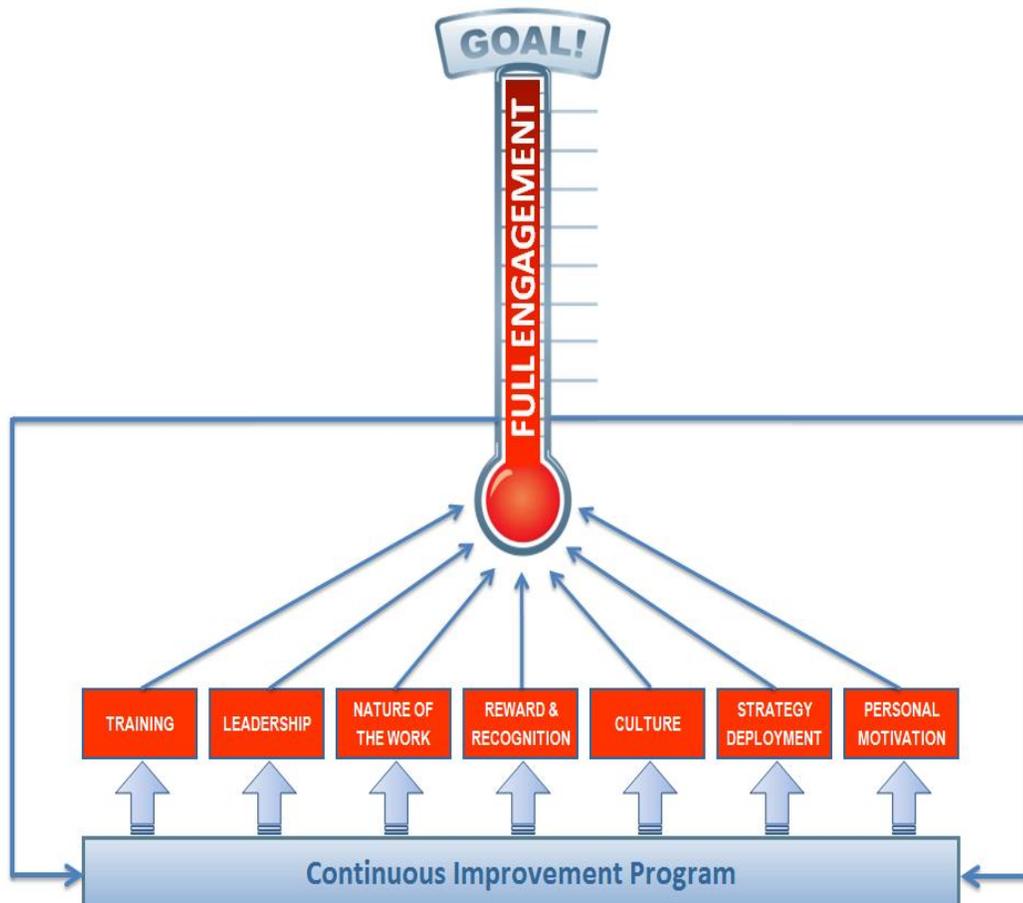
Figure 2: Proposed conceptual framework

The premise of the proposed framework is that any form of continuous improvement activity which takes place within an organisation is likely to stimulate employee engagement. This will occur regardless of whether the continuous improvement activity is in just a small section of the organisation or is part of a major plant-wide activity

46

leading to an increase in the overall level of employee engagement. The researcher is suggesting that this positive experience will in turn lead to increased number of employees looking to become involved in the continuous improvement program while those already involved will want more involvement. The close synergies between employee engagement and continuous improvement which were covered earlier in this paper will now create a momentum or spiral for further change. This is illustrated in the framework in the form of a feedback loop and reflects the title of this proposed study 'Exploring the use of Continuous Improvement as an Accelerator of Employee Engagement'. The researcher will now outline how continuous improvement activity affects each of the seven engagement drivers in the framework.

Training. The ability of training to engage and release the untapped potential of employees to achieve their full capabilities is unquestionable. Training does not only increase skills and knowledge but also builds confidence and self-esteem (Konrad, 2006).

Leadership. In order to lead continuous improvement implementation leaders must first learn to move away from the traditional command and control model towards a more collaborative approach which will empower their subordinates to achieve their full potential. Involvement in continuous improvement assists leaders in making this transition and strengthens the leader member relationship (Lareau, 2000).

Nature of the Work Itself. How work is designed can have an enormous affect on the person carrying it out which is why their input is so important (Nohria *et al.*, 2008). Involving people in how their work is designed and managed can increase job satisfaction as well as productivity while also reducing the risk of burnout mentioned earlier in this paper.

Reward and Recognition Systems. This does not necessarily have to be in the form of monetary rewards. It can be acknowledged in selection for training and development opportunities as well as offering employees the chance to demonstrate their achievements to their peer groups and senior leadership alike.

47

Culture. Involvement in continuous improvement activities demonstrates to employees that they are valued and respected and that their opinions and suggestions will be listened to and acted on.

Strategy Deployment. An effective strategy deployment system is essential so that all employees regardless of their status or position on the organisational chart fully understand the company strategy and how they contribute to it. Involvement in continuous improvement activity gives employees a greater perspective and can facilitate their input to the development of the overall strategy.

Personal Motivation. As outlined earlier in this paper people for a variety of reasons bring different levels of personal motivation to their workplace. Involvement in continuous improvement is open to all employees at varying degrees to suit their situation.

In summary the conceptual framework proposes that employee engagement is more akin to a set of building blocks than a jigsaw, in that individual action or elements have the power to increase engagement, rather than it being necessary to have all of these elements in place to complete the picture. The link between continuous improvement activity and employee engagement appears to be intrinsically linked in that any form of continuous improvement activity may lead to an increase in employee engagement.

Methodology

This study will be conducted at the workplace of the researcher, namely Lake Region Medical, an Integer Company, in New Ross, Co. Wexford, which first launched its Continuous Improvement Program in June 2003. In the intervening years the company has been recognised nationally with the award for Irish Medtech Company of the Year 2012 and globally when they became the first MedTech Company in Europe to achieve the prestigious Shingo accreditation in June 2012. The dramatic improvements in the company's performance are best illustrated by the fact that in 2003 the company employed just 160 people in Ireland, all at the New Ross site. Twelve years later the plant in New Ross has 750 employees, with an additional 250 at its Galway site.

Throughout this remarkable journey, continuous improvement and employee engagement have been intrinsically linked although this relationship has yet to be empirically explored. The researcher proposes to conduct a qualitative exploratory study involving a variety of information gathering techniques including focus groups, in-depth interviews and documentation analysis. The data will be analysed through thematic analysis where the main themes stemming from the primary data will be explored.

The main difficulty in this study is the fact the researcher as Continuous Improvement Director is a significant actor within the organisation with regards to both employee engagement and continuous improvement. It is important therefore that he recognises his own biases and potential impact on the study as practitioner-researcher. The researcher's involvement is not necessarily a limitation from an interpretivist perspective, and his in-depth knowledge of the subject matter may add additional insight into the study, but the researcher is aware of acknowledging and recognising his involvement and influence on the research.

Conclusion

The review of the relevant literature in the area, underpins something which we intuitively know, engaged employees can give organisations a competitive advantage and create a momentum for learning which, according to Senge (2014), no competitor can match. Despite this, for the majority of organisations having a fully engaged workforce remains an alien concept with many citing the notion of human resource best practice as being too elusive. In this paper the researcher has proposed that, in line with social exchange theory, a continuous improvement program can potentially be used to accelerate employee engagement in a positive and flexible manner which may result in increased employee satisfaction and improved business results.

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Preface to Paper 2

This is the second paper submitted as part of the four-paper DBA cumulative paper series. In paper two the researcher will outline the methodological approach he is adopting, the operational details behind the study and his research question and objectives. The researcher will firstly discuss the evolution in his understanding between the final submission of paper one and the writing of paper two.

One of the most significant developments between paper one and two was the evolution of the conceptual framework. In paper one the focus was on how the continuous improvement process stimulated employee engagement. The researcher suggested that by implementing a continuous improvement program "various activities will be utilised which will enhance employee engagement" (Paper 1). The researcher felt that this had the potential to create a momentum with a mutually positive influencing relationship evolving between employee engagement and the continuous improvement activity. By paper two the researcher's understanding had evolved, and he began to think about how a social exchange was potentially created during the continuous improvement process, and that employee engagement might instead occur once the process of social exchange had been created (Saks, 2006). More specifically, the researcher contemplated whether a continuous improvement activity created an environment conducive to the emergence of a social exchange, and then whether employee engagement results from this exchange.

This evolution is also illustrated through an examination of the trajectory of the research question. In the final draft of paper one the focus of the study was directed towards understanding how in line with social exchange theory, a continuous improvement program could potentially be used to accelerate employee engagement in a positive manner.

By paper two the research question had evolved as follows;

Can a continuous improvement initiative create a process of social exchange which is conducive to stimulating employee engagement?

The former research focus is based on the assumption that employee engagement is the primary research concern, whereas the refined question centralises the process of social exchange. The change from 'accelerator of employee engagement' to 'stimulating employee engagement' is also crucial, as this change in terminology is reflective of a more interpretivist approach adopted by the researcher. Now the researcher is focusing on exploring if and how a continuous improvement initiative can create a process of social exchange, and if that is the case, whether this process can stimulate employee engagement.

Paper two was submitted for review on September 7th 2015 and was examined on September 28th 2017. The examiners suggested a number of changes including the following:

- The chosen research methodology should be revisited, particularly the use of 'storytelling' as the method of data collection.
- The concept of a 'continuous improvement initiative' required greater definition.
- The researcher needed more clarity around the challenges posed from being an inside investigator.
- The research contribution section was deemed insufficient for the proposed study.

The researcher initially decided to use storytelling as a method of data collection as it would provide a rich data set. However following the examiners feedback the researcher found that while in recent years storytelling has become an important feature in describing organisational behaviour and culture (Boje, 1991; Chase 2005; Gabriel, 1995; 2000; 2004; Schreyogg and Geiger, 2005), questions remain about its trustworthiness (Gabriel and Griffiths, 2012). According to Boje (1991) stories can be disjointed, too brief and unlikely to reveal the full story. The main disadvantage of the storytelling method is that stories can be misinterpreted, which can leave the researcher open to accusations of bias (Gabriel and Griffiths, 2012). Bias may be a legitimate issue in this

study considering the position of the researcher as an employee of the organisation used in the case study, and in particular as Continuous Improvement Director. It is for this reason in particular that the researcher replaced storytelling as the main method of data collection with the critical incident technique. Critical incident technique requires narratives to be collected from the respondent's perspective, in their own words, about the incidents which have most meaning for them (Edvardsson, 1992). Also, importantly for this study, critical incident technique had the potential to deliver context-rich data (Chell, 2012; Douglas *et al.*, 2009; Gremler, 2004; Johnston, 1995). The fact that critical incident technique is well established within the continuous improvement literature (Garver, 2003; Lockwood, 1994) and has a well-defined data collection and analysis framework (Chell, 2012) also appealed to the researcher. Notably, the adopted methodology no longer incorporates focus groups as an element of the study however, documentary evidence and the researcher's reflections remain.

In response to the DBA examiners' suggestion that the continuous improvement program as outlined in the first submission of paper two was too broad for the proposed research study, the researcher was drawn back to the definition of employee engagement, from MacLeod and Clark (2009) as cited by Truss *et al.* (2014);

> Engagement is about creating opportunities for employees to connect with their colleagues, managers and wider organisation. It is also about creating an environment where employees are motivated to connect with their work and really care about doing a good job … It is a concept that places flexibility, change and continuous improvement at the heart of what it means to be an employee in the twenty-first century workplace.

(Truss *et al.*, 2014: 197).

The researcher believed it was essential that the chosen continuous improvement activity would incorporate elements conducive to this definition. The researcher opted to use Lake Region Medical's 8 step scientific problem solving program (8SPSP) as the critical incident on which to collect his data (refer to appendix 1). This program which was introduced in Lake Region in 2012 is based on the Toyota 8 step model popularised by Liker (2004) in his seminal book *The Toyota Way* and has been fundamental to the running of Lake Region Medical since its introduction.

The initial drafts of paper two also resulted in another significant amendment with the researcher's decision to expand the number of interviewees to include five managers in the studied organisation (Lake Region Medical) as well as fifteen team leaders, in order to provide a more rounded perspective on the respective elements under exploration.

Finally the contribution section was also revisited and the researcher thought about these contributions specifically in the context of his research question and objectives. In the original submission, practice contributions were emphasised. In the final paper, the researcher focused on the academic contributions as well as those relating to practice. In particular, the researcher focused on the potential that the research had to add knowledge to the fields of social exchange, employee engagement and continuous improvement theory.

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Paper 2: Research Methodology

Abstract

This study explores the research proposition that when employees become involved in continuous improvement programs it may stimulate a process of social exchange, which in turn may lead to positive psychological outcomes such as employee engagement. In 2003 Lake Region Medical, an Integer Company, initiated a continuous improvement program to reduce costs and improve competitiveness. The research will use critical incident technique within a case study framework to investigate if the continuous improvement program stimulates social exchange and if this interchange can be linked to employee engagement.

This paper discusses the choice of methodology and fieldwork involved, including the proposed conceptual framework, data sources, sample selection, choice of research methods, an outline of the method of data analysis, ethical aspects and the limitations of the chosen approach. The academic and practical contributions are also outlined. Because the social exchange literature has to date concentrated on how human resources practices promote employee engagement, this paper makes a contribution to the development of new knowledge by identifying continuous improvement as a potential stimulant for employee engagement through the process of social exchange. The next paper in the series (paper 3) will outline the approach to the data collection and analysis design in greater detail and will present the initial findings.

Introduction

This research seeks to explore whether a continuous improvement initiative can create a process of social exchange which is conducive to stimulating employee engagement. The basic tenet of employee engagement is that strong mutually beneficial relationships accrue over a period of time provided certain rules of exchange are adhered to (Blau, 1964; Cropanzano and Mitchell, 2005; Gouldner, 1960; Homans, 1958; Kular *et al*., 2008). Saks (2006) explores the relationship between social exchange theory and employee engagement and suggests that obligations are built up through a series of interactions between parties who are in a reciprocal relationship. It is the researcher's contention that when organisations engage their employees in continuous improvement activity (in this context a scientific problem solving program) it provides an environment which creates a process of reciprocity through social exchange between the employee and their manager, which in turn stimulates employee engagement.

In this paper the researcher will outline to the reader the methodological approach taken in this study. It will begin by explaining the research question and the research objectives employed within the context of the theoretical framework. The philosophical position and methodological choices will then be discussed. The research will make use of a single case study methodology which is exploratory in nature and will employ interviews using critical incident technique as its main method of data collection and analysis. The ethical considerations arising will be examined, in particular the fact that the researcher is an employee in the organisation that is the subject of this research. The contributions of this research to creating new knowledge will be discussed, as will its potential for practical application by organisations.

Research Methodology

The research onion (Saunders *et al*., 2011), as referred to in appendix 2 and applied in this study, was developed to illustrate the stages that must be covered when developing a research strategy. When viewed from the outside, each layer of the onion describes a

more detailed stage of the research process. The outer layer details the research philosophy which the researcher will have to define. This creates the starting point for the most appropriate research approach, which is adopted in the second step. The research strategy is adopted in the third step, and the fourth layer outlines the time horizon. The fifth step is the point at which the data collection methodology is identified. The benefits of the research onion are that it creates a series of stages under which the different methods of data collection can be understood, and illustrates the steps by which a methodological study can be described. The research onion provides an effective progression framework through which a research methodology can be designed. Its usefulness lies in its adaptability for almost any type of research methodology and can be used in a variety of contexts (Bryman, 2012). The different stages of the research onion as it relates to this particular study will be discussed below.

Research Philosophy

Before constructing an appropriate methodology for a study, researchers must firstly start with an understanding of the philosophical position which will be adopted (Easterby-Smith *et al.,* 2012). As researchers we bring our own assumptions about what constitutes reality, what human knowledge entails and what status can be ascribed to it (Burrell and Morgan, 1979; Crotty, 1998; Deetz, 1996). Holden and Lynch (2004) argue that it is the researcher's philosophical position and the phenomenon under investigation which should determine the choice of methodology. It is for these reasons that researchers need to outline these perspectives in advance, so that future readers of the researcher's work can take due cognisance of the unique perspective adopted.

To outline his own philosophical stance, the researcher will utilise the framework popularised by Morgan and Smircich (1980) to stimulate the subjective – objective debate within social science. Research philosophy is based on the philosophical assumptions of ontology, epistemology, axiology, and rhetoric. Ontological queries relate to what we know of the world, its reality and existence. According to Morgan and Smircich (1980) qualitative researchers seek to answer this question in the knowledge

that there are multiple realities held by each person, that reality is subjective, and that there is no access to reality independent of our minds.

The ontological position adopted in the current study is that of social constructionism. Social constructionism has its roots in phenomenology and is an important perspective within the area of social science (Alvesson and Skoldberg, 2000). According to Raskin (2002) social constructionism emphasises the importance of culture and context in understanding what goes on around us and relates to the way we create meaning through social interaction with each other. Social constructions are powerful and often contested. Social movements can be understood, in part, as collective efforts to change socially constructed ideas about the world (Wade and Sharp, 2013). The researcher leans towards subjectivism believing that each individual creates their own truth based on their unique experiences and perspectives. It is the researcher's contention therefore that this insight and revelation can only be garnered by establishing a foundation of trust on which to build understanding.

Epistemology is concerned with what is truth and what is knowledge, and it also considers the relationship between the researcher and the study. The current study is based on an interpretivist perspective. Interpretivists believe that reality is something that cannot be objectively determined without taking into account social factors (Husserl, 1965). This is why interpretivist researchers study phenomena and its subjects in their natural environment. The interpretivist's perspective is that there is no one real truth. Instead there are multiple truths and realities which are subjective to each person. Therefore interpretive researchers get as close as possible to participants in their environment to understand their views of the context that surrounds them. According to Kelliher (2011) interpretive case research is recognised for bringing context and depth, although she also notes that its results are often accused of lacking validity and reliability.

The axiological philosophical assumption poses a question concerning the role of values in research. Interpretive researchers believe that there is no such thing as absolute objectivity, values are entrenched in everything and that facts cannot be separated from values (Willig, 2008). This is why in their studies they will always be upfront in their reports about their own value system and any biases they might possess. The rhetorical

philosophical assumption deals with what language to use in writing the report. In the next section the researcher will discuss his theory selection and outlines his conceptual framework.

Theoretical Background

The current study is based on the premise that when employees become involved in continuous improvement activity it stimulates a process of social exchange which in turn may stimulate employee engagement. The following section will explain the theoretical background to the current study and provide a conceptual framework.

For the purpose of this study the researcher will adopt the following definition of employee engagement from MacLeod and Clark (2009), as cited by Truss (2014);

> Engagement is about creating opportunities for employees to connect with their colleagues, managers and wider organisation. It is also about creating an environment where employees are motivated to connect with their work and really care about doing a good job…..It is a concept that places flexibility, change and continuous improvement at the heart of what it means to be an employee in the twenty-first century workplace.

(Truss, 2014: 197).

The basic tenet of employee engagement is that strong mutually beneficial relationships accrue over a period of time provided certain rules of exchange are adhered to (Cropanzano and Mitchell, 2005; Kular *et al.*, 2008; Settoon *et al*., 1996).

The above perspective can be tied into social exchange theory which is based on the fundamental principle that any exchange in a relationship has to be mutual (Blau, 1964; Eisenberger *et al.,* 1997; Goulder, 1960; Homans, 1958). Social exchange theory has developed over time to explain the beginning, strengthening, and on-going maintenance of interpersonal relationships. It provides a possible theoretical basis for understanding the relationship between individuals, which is employees and their organisations (Einsenberger *et al.*, 1990; 1997). It offers a theoretical framework to explain what makes some employees engage themselves fully in their work and organisation, while others simply choose not to.

70

Saks (2006) explores the relationship between social exchange theory and employee engagement and hypothesises that obligations are built up through a series of interactions between parties who are in a reciprocal relationship. This is consistent with Jose and Mampilly (2012) and their view of employee engagement as a two way relationship between the worker and the organisation. In the context of social exchange theory reciprocation is the process by which an individual who receives a benefit feels obliged to return the favour. According to Lynch *et al*. (1999) within a work organisation context, the relationship can be seen as a trade-off effort on the part of the employees for benefits provided by the employer. Because to a large degree social exchange is governed by social obligations rather than defined sets of rules, each party must trust the other to return the benefit received (Morgan and Hunt, 1994).

Social Exchange, Continuous Improvement, and Employee Engagement

It is the concept of reciprocation which is the fundamental element of social exchange theory that the researcher will use to explore the relationship between continuous improvement and employee engagement. The link between social exchange and employee engagement has been explored already in terms of various human resource practices. Jose and Mampilly (2012), for example, propose a conceptual connection based on social exchange theory between an employee's satisfaction with human resource practices and employee engagement. Employers as a rule value employee loyalty and dedication which delivers positively in terms of performance, attendance and turnover. Employees in contrast see the rewards of being valued by the organisation, in terms of improved pay and conditions, as well as less tangible benefits such as access to information and respect. The norm of reciprocity allows employers and employees to reconcile these opposing positions (Rhoades and Eisenberger, 2002). Although the study by Jose and Mampilly (2012) focuses on the links between human resource practices and employee engagement the current study focuses on the link between continuous improvement and employee engagement and proposes that the idea of reciprocity within

a social exchange theory context, is key to the relationship between continuous improvement and employee engagement.

The term continuous improvement refers to organisational initiatives aimed at improving performance through the application of continuous improvement tools to eliminate non-value adding activities (Fryer *et al*., 2007; Jørgensen and Hyland, 2007). According to Singh and Singh (2012) the most widely used continuous improvement tools are 5S, visual management, kaizen, SMED, value stream mapping, and structured problem solving, the last of which Jørgensen and Hyland (2007) believe is particularly suitable for application by employees. It is the researcher's contention that continuous improvement activities involve various elements of social exchange such as leader member exchange, perceived organisation support and organisation commitment. Therefore when a manager involves an employee in improving work processes and provides them with the necessary skills and tools to do so, social exchange theory comes in to play and employees become engaged through this process, i.e. a continuous improvement activity will stimulate employee engagement through a process of reciprocity (refer to Figure 1).

Figure 1: Conceptual framework

Research Question and Objectives

Based on the above, the research question that the current study seeks to answer is;

Can a continuous improvement initiative create a process of social exchange which is conducive to stimulating employee engagement?

72

In exploring the research question above, the research objectives are as follows:

1. To establish if a process of social exchange took place within the context of the continuous improvement activity.
2. To establish the elements within the continuous improvement activity that contributed to this sense of exchange.
3. To identify how these criteria contributed to the process of exchange that took place within the continuous improvement activity.
4. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

Research Approach, Design, and Methods

The research design outlines the rationale that links the data to be collected and the conclusions to be drawn, back to the initial question posed. It is in effect the chain of evidence that ensures coherence and validity. Following on from the research philosophy and epistemology, as set out above, the main elements of the methodology are outlined. When developing a research strategy that would be most appropriate for this study the researcher considered using either an action research or case study approach. While action research is well accepted as a valid methodology for carrying out social research (Brydon-Miller *et al.*, 2003), according to Heller (2004) as the name suggests action research is mainly used to study the application of change in the field. As this is an exploratory study seeking the perceptions of participants, the action research approach was deemed unsuitable.

Abductive Research

Due to the fact that this is an exploratory study the researcher will be adopting an abductive research approach. This is also known as systematic combining, and refers to the process where a theoretical framework, empirical fieldwork, and case analysis evolve simultaneously. It is of particular use to researchers for generating new theory based on existing work in the area (Dubois and Gadde, 2002; 2014). Kovács and Spens (2005)

outline how this simultaneous data collection and theory enhancement makes for a very creative approach that can lead to the creation of new knowledge (refer to appendix 4). While tending heavily towards inductive research where the findings emerge from the data, the applied method also incorporates elements of the deductive approach where the strategy is to build on existing knowledge. The researcher has selected this flexible and dynamic approach because it will allow him to go back and forth to challenge and refine his thinking as new findings emerge as well as using existing literature to inform his thinking. This has particular relevance for the researcher who is embedded in the organisation which is the focus of this study. However, while the researcher is an active player within the organisation, he has little or no control over the events being studied (Rowley, 2002).

Case Study Perspective

Case studies are a widely used strategy for conducting organisational and social sciences research. Single case studies (as is the case with this research) can result in higher quality theory than multiple studies (Dyer and Wilkins, 1991), particularly where new knowledge is likely to be acquired (Eisenhardt, 1991; Yin, 2003). It requires the researcher to carry out a detailed investigation of phenomena within their real life context. Voss *et al.* (2002) argue that any fact relevant to the stream of events describing the phenomenon is a potential datum in a case study, since context is important, while Yin (2003) sees the job of case studies as exploring, explaining or describing phenomenon. Because the focus is on understanding how behaviour is influenced by, and influences context, it is particularly suited to organisational research (Hartley *et al.*, 1983). The case study approach is relevant to this research because it is investigating a current phenomenon and will draw evidence from a number of different employees through the use of critical incident technique (Flanagan, 1954). It is because the case study method allows the why, what, and how questions (Yin, 2003) to be answered with a relatively full understanding of the nature and complexity of the problem, that makes it the researcher's preferred approach for conducting this study.

Exploratory Case Study Research

Exploratory case studies enable researchers to look at the phenomena occurring from a new perspective and they are particularly effective at identifying new context (Robson, 2002). While the effectiveness of utilising exploratory case studies to narrow down the research topic or field is well established (Eisenhardt 1989; McCutcheon and Meredith 1993; Simon *et al.,* 1996; Wallace, 1991), it also provides the researcher with a very flexible approach to theory enhancement.

The weakness of a single case study approach is that by its very nature it does not allow the generalisation associated with multiple case studies (Kennedy, 1979). Concerns about a single study are addressed by Stake (1995) whose contention is that case study research is at its best when attempting to explain the complexity of a single case. It is about examining its peculiarity and complexity in order to understand its activity within important circumstances. Sigglekow (2007) argues that a single case study can also be used effectively to build on existing theory by pointing out gaps and attempting to bridge them, which in this case is discovering the nature of the relationship between continuous improvement activity and social exchange and how this stimulates employee engagement. It also provides an example for readers to imagine how applicable it might be in other settings. This view is supported by Donmayer (2000) who suggests that the real value of single case studies are in asking questions, rather than answering them. An overview of the case study utilised in the current research is provided below and a full description is provided in appendix 1.

Case Study Background

Founded in 1947, Lake Region Medical (LRM) remained a family-owned company until March 2014 when it was taken over by American multinational Accellent. It was subsequently acquired by Greatbatch Medical in August 2015 and rebranded as Lake Region Medical, an Integer Company. Integer has over 10,000 employees and is one of the largest suppliers to the medical industry worldwide.

The New Ross (Ireland) operation was established in 1994 with an initial workforce of 15 to manufacture guide wires for the European medical device market. Guide wires are made from medical grade stainless steel and are used as a guide for placement of a larger device such as a catheter or stent. Today the New Ross site employs over 750 people and is the largest guide wire manufacturing plant in the world, shipping over 30 million guide wires annually to more than 30 countries across the globe. As guide wire manufacturing is a very complex and labour intensive process, Lake Region Medical face on-going pressure from customers demanding year-on-year cost reductions, whilst also having to contend with competitors operating in lower cost environments such as Mexico and Costa Rica. It is for this reason that continuous improvement has been to the forefront of the company's strategy since 2003. In 2008, LRM introduced the use of structured problem solving tools based on the Toyota 8 step model popularised by Liker (2004) in his seminal book *The Toyota Way* and it is around the use of this particular continuous improvement tool that this study will focus on. The 8 step model (refer to appendix 3) is applicable to any situation with the first three steps used to define and narrow the problem down to a manageable constituent. In steps four to seven possible corrective strategies are developed and trialled under laboratory type conditions to select the most effective countermeasure which will be applied to solve similar problems in step eight. In the researcher's opinion what is significant about this model is that it takes statistical analysis tools such as pareto and root cause analysis which were traditionally the preserve of engineering staff and simplifies them in a way that they can be adopted and applied by non-technical employees to solve their own problems themselves.

Research Approach

While case studies can use either a quantitative or qualitative approach, the choice of approach is best dictated by what research question they are attempting to answer. If the aim is to investigate a particular issue or explore the meaning of a person's experience then a qualitative case study is the preferred strategy (Eisenhardt, 1989; Stake, 1995; Yin, 2003). However if the purpose of the study is to compare or examine the relationship or differences between variables, then a quantitative approach should be taken (Stake, 1995;

76

Yin, 2003). The popularity of quantitative research in case studies is due to the fact that it is long established, clearly understood, and relatively easy to apply (Remenyi, 1998). In quantitative studies the types of data required to validate hypothesis are usually obvious and typically collected through the use of questionnaires and surveys. While the quantitative approach is the favoured method for collecting hard data it fails to provide the detailed nuances often required by social science researchers (Creswell, 2007; Denzin and Lincoln, 2013; Remenyi *et al.,* 1998; Yin, 2003). It is for this reason the researcher deems it unsuitable for this study. A qualitative approach is chosen as it allows for a much more holistic understanding of the meaning of personal experiences (Eisenhardt, 1989; Stake, 1995; Yin, 2003) and the ways in which these meanings may interconnect. It enables the researcher to explore a wider array of dimensions of the social world, including the textures of everyday life experiences of those studied, how relationships work, and the significance they generate (Mason, 2002). The full essence of the qualitative approach is captured by Bogdan and Taylor (1975) who state;

> Qualitative methods allow us to know people personally … experience what they experience in their daily struggles with their society … qualitative methods enable us to explore concepts whose essence is lost in other research approaches. Such concepts as beauty, pain, faith, suffering, frustration, hope and love can be studied as they are defined and experienced by real people in their everyday lives.

> (Bogdan and Taylor, 1975: 33).

Adopting a qualitative approach within the context of this case study will allow the researcher to study, investigate, and interpret the phenomena in its natural setting, which is in this case Lake Region Medical. This along with the researcher's bias towards subjectivism makes it the most legitimate choice for this study. In qualitative studies it is the responsibility of the researcher to obtain the data, in this case narratives of the interviewees' experiences (Chenail, 2011) facilitated through critical incident technique. It is the researcher who sets the tone of the conversation and picks up the vital cues from the participants that will draw out from the interviewee deep and personal matters (DiCicco-Bloom and Crabtree, 2006) that will result in an effective study.

Critical Incident Technique as a Method of Data Collection

As outlined earlier in this paper the main method of data collection will be a series of interviews with the members of the team leader group using critical incident technique. Critical incident technique has been widely used in management and service quality literature (Douglas *et al*., 2009; Gremler, 2004; Roos, 2002). Critical incident technique requires narratives to be collected from each respondent's perspective, in their own words, about the incidents which have most meaning for them. Importantly for this study it has the potential to deliver context-rich data (Chell, 2012; Douglas *et al*., 2009; Gremler, 2004; Johnston, 1995) which will assist the researcher in discovering if continuous improvement stimulates employee engagement.

While employing critical incident technique the researcher will adopt the phenomenological approach developed by Chell (2012) from Flanagan's (1954) original work. This six phase model begins with steps one and two where the researcher outlines the purpose and ethical issues around the study before moving on to identify the central theme or event for the subject to focus on (Chell, 2012). In this study the event being investigated is the 8 step problem solving process used by LRM. In step three the researcher steers the interview and probes the critical incident(s) until he is satisfied with his own understanding and interpretation of the events, at which stage the interview is concluded. In the final two steps the researcher contemplates any ethical issues that may arise with the study before analysing the data and presenting the findings.

Chell (2012) and Gremler (2004) note that because the aim of the critical incident technique interview is to gain a thorough understanding of the event from the interviewee's perspective, it differs from traditional interviews in that it is more conversational in nature. As the subject recalls and relates his experiences the researcher notes moments of major significance which he can later return to in order to expand and get a deeper understanding of the phenomenon (Douglas *et al*., 2009; Johnson and Gustafsson, 2000) by asking how, what, and why questions. As the interview progresses the researcher's expectation is that processes of social exchange may surface from the recounted experiences which may potentially be conducive to stimulating employee engagement. In order to gain multiple perspectives, the researcher will also conduct

interviews with five Lake Region Medical managers, applying the same data collection approach throughout.

Participant Selection Criteria

The Lake Region Medical employees selected for this study come from within the production team leader group. The researcher selected this group because of their experience and exposure to continuous improvement events and 8 step problem solving in particular. It is also important to understand the demands of the team leader role. Each team leader typically has responsibility for managing a team of 20 production associates to meet challenging production targets while also achieving the highest quality standards in the medical device industry. The team leaders are the first point of contact for all human resource and training issues for their team. Team leaders either lead or participate in 8 step projects on a regular basis.

Between eight and fifteen participants will be involved in the study in line with Guest *et al.'s* (2006) proposition that twelve participants is satisfactory when the objective is to identify common perceptions and experiences among a group of similar individuals. The employees selected from this cohort will all have at least eight years' service and will have been involved in 8 step projects for a period of five years or more. While the team leaders are the central focus of the study the researcher will also seek to conduct interviews with up to five LRM managers to garner their opinions as to whether the 8 step problem solving process may stimulate a process of social exchange. This will also involve the use of critical incident technique (CIT).

Pilot Study

Before the research commences a pilot study will be carried out to validate the use of CIT as a data collection vehicle and to identify issues which may require refinement. The pilot study will be used by the researcher to evaluate his interview questions (Ball, 1993) and the CIT process in general, which should result in a more focused inquiry, enabling him to achieve a more effective study (Gable, 1994; Samson, 2004; Xanthopoulou *et al.*,

2008). The pilot study will involve the researcher carrying out two semi-structured interviews with employees who meet the selection criteria outlined earlier, but will not be involved any further in the study. The interviews will be taped to facilitate transcribing for analysis using qualitative data analysis software. The transcripts will be reviewed by the researcher to establish if the desired richness of data from the research subjects has been captured and whether the questions utilised elicited the desired information. Yin (2003) points out that the pilot report is very different from the actual study report. It should be clearly written, explaining the lessons learned covering both the research design and field elements of the study.

In situations where the researcher is embedded in the organisation where the study is taking place and well known to the research participants, according to Chenail (2011) there is always a risk of insider research bias. The researcher is aware of his own position in the company and how this may introduce bias into the study (this issue will be dealt with in greater detail under ethical guidelines). To address this concern the researcher will in advance of the pilot assume the role of interviewee and a senior colleague will conduct a pilot interview which will be audio taped. A careful analysis of the interview will reveal any thoughts and impressions that surfaced during the interview which might be construed as bias (Chenail, 2011).

Data Analysis

As narratives will be collected from the respondent's perspective, in their own words, about the incidents which have most meaning for them, the researcher has chosen to use a thematic approach to analyse the qualitative data, as outlined by Creswell (2007). Analysis will be carried out in three stages starting with the coding of the text which will allow the generation of descriptive themes before finally formulating analytical themes (Thomas and Harden, 2008). The software employed to help analyse the transcripts will be NVivo 10. NVivo was selected because it has the ability to handle very large amounts of data in a consistent and structured way which allows for deep and flexible analysis (Bergin, 2011). NVivo is a very powerful analysis tool that facilitates the researcher's use

of thematic analysis. It presents the findings of the various relationships in a highly visual manner that provides greater clarity and leads to clear interpretation (Gibbs, 2002).

Research Contribution

The literature to date has focused on exploring how various Human Resource (H.R.) activities stimulate social exchange. No study to date has investigated how operationally driven initiatives such as continuous improvement might create a process of social exchange which in turn may stimulate employee engagement. This study seeks to make a contribution to the literature on social exchange and employee engagement by highlighting the continuous improvement elements which may act as an antecedent to social exchange, and by exploring how the process of social exchange is enacted as a result of the continuous improvement intervention. This in turn helps to expose how the processes of social exchange are surfaced and how these processes may be conducive to stimulating employee engagement.

With regard to creating new knowledge the most significant potential contribution in this study is the potential to bring the concept of continuous improvement out of the quality literature and introduce it into the employee engagement literature. While to date the literature has focused on how organisations use continuous improvement systems and tools to reduce costs and deliver increased profits to shareholders (Bhuiyan and Baghel, 2005), researchers have neglected to address the issue of what stimulates employees to engage with and become involved in continuous improvement in the first place. It is the researcher's contention that the answer to this question is to be found within the realms of social exchange theory.

If a connection between continuous improvement initiatives and employee engagement is exposed through this study, then it puts the spotlight on some practical issues. These include: an exploration of where the responsibility for engaging employees in continuous improvement initiatives resides. While traditionally this responsibility has been within the engineering or quality functions, it might be better placed within the Human Resource department. Of potential significance is the opportunity to discover what the social

exchange process is within which the continuous improvement activities reside. If this process can be identified the results can be used to make managers aware of how continuous improvement initiatives can create a process of social exchange, which in turn may be conducive to stimulating employee engagement.

Ethical Guidelines

Fundamental to the research process is the requirement to consider ethical issues. These ethical issues are to be expected given the natural tension caused by the need to balance the aims of the research on one hand and the rights of the participants on the other (Bell and Bryman, 2007; Orb *et al*., 2001). According to Kaiser (2009), for qualitative researchers the task of providing rich detailed accounts of phenomena while also ensuring the confidentiality of the participants can cause a dilemma and discussions on consent should be on-going rather than just be limited to the beginning of the data collection process. Of note in this study is that the researcher will seek ethics approval through the higher education institute in which he is pursuing his doctoral research prior to commencing the data collection process.

The main ethical issue with using critical incident technique as a method of data collection and analysis is confidentiality (Chell, 2012). It is important that the respondents have a clear understanding of what the researcher is attempting to achieve and how the information will be used. Requests for volunteers will be coordinated through a junior member of the Human Resource department (refer to appendix 5) and all interviews will be carried out with informed consent and confidentiality agreements signed in advance. It will be explained to the participants how the results will be analysed and potentially published. One strategy by the researcher to build confidence amongst all those involved is to assure them that the contributions and insights they provide will be accurately represented. This assurance involves the researcher having follow up sessions with each interviewee to ensure his interpretation of the events are correctly captured and the participants will be given the opportunity to review their transcripts, thereby ensuring that their narratives are represented correctly to the reader. Direct quotations will be used

only with the participant's approval. For the duration of the study all transcripts and tapes of the interviews will be stored on the researcher's laptop in a restricted folder.

The aim of the critical incident interview is to facilitate a frank and honest discussion on the experiences of the participant's involvement in a continuous improvement activity and any effect this may have had on stimulating their engagement with the company. To assist in identifying themes and making the process more dynamic for the interviewees the researcher will suggest in advance the use of visual aids (Chell, 2012). These could take the form of a flip chart to map out the 8 step problem solving process or involve the research subjects bringing along examples of completed projects (refer to appendix 3). The use of these aids will be trialled in the pilot interviews.

The potential bias of the researcher, particularly due to his role as Continuous Improvement Director at LRM; his ability to conduct and code the in-depth interviews effectively, and finally the issue of power dynamics which may bias participants towards delivering a positive response (Burke, 1997) need to be considered. It should also be noted that the researcher is embedded in the organisation and well known through his position within the company to the research subjects. While this may assist in generating a degree of trust and provide an environment conducive to the research subjects sharing their experiences in an open and honest manner, it is also the researcher's responsibility to carefully respect this trust dynamic. In dealing with the issue of power dynamics the researcher will adopt a friendly and relaxed approach and hold all the interviews in the research subjects' normal working environment.

To address the issue around researcher bias the researcher will also use a small peer review team who will challenge his thought process during the research design, coding, analysis and finding stages of the study (Burke, 1997; Hartley, 2012; Shenton, 2004). The peer review team will consist of the researcher's academic supervisors and two work colleagues who have successfully employed NVivo in their own qualitative research. These monthly review sessions will serve to identify potential flaws or biases in the researcher's thinking at an early stage. The peer review group will also bring fresh perspectives to the study and their probing will support the researcher in the development and exploration of new and alternative strategies. The researcher's lack of experience in

employing the critical incident technique will be addressed through the experience garnered in conducting the pilot interviews and in interaction with his supervisors.

Limitations of the Study

Despite the popularity and many advantages of the critical incident technique method some researchers have raised concerns. In particular because of the time lag between when the critical incident took place and the interview, there is a danger of recall bias where the subjects might reinterpret the event (Chase, 2005; Gremler, 2004; Johnson, 1995). Chell (2012) however states that because the subjects view these events or incidents to be of critical importance, their recollections are likely to accurate. There is also the fact that because the 8 step problem solving method remains the continuous improvement tool of choice within Lake Region Medical it should assist in keeping individual's experiences fresh. Another concern raised by Gabbott and Hogg (1996) is the possibility that the researcher may misinterpret or misunderstand the critical incidents as they are being told. To alleviate this risk, as mentioned previously, the researcher will seek participant feedback (Burke, 1997) to ensure their recollections have been accurately captured and represented.

Conclusion

In this paper the researcher began by outlining the chosen methodology and went on to discuss his own research philosophy before dealing with the theory which underlines the conceptual framework. The research objectives were then discussed and the research approach, design and data collection outlined. The paper concluded with the researcher justifying his selection of the research subjects and outlining the ethical considerations, research limitations and potential contributions of this study. The researcher believes the methodology chosen; in particular the use of critical incident interviews will shine a light on the process of social exchange that takes place when employees become involved in continuous improvement and how this in turn stimulates employee engagement.

In the next paper in this series the researcher will outline the design of the study and its initial findings. He will also discuss his approach to the presentation of the findings, how they are structured, their appropriateness and effectiveness as well their relationship to the objectives of the study.

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Appendix 1 Lake Region Medical, an Integer Company

Corporate Background: Lake Region was founded by Mr. Joseph Fleischhacker Senior in Chaska, Minnesota in 1947. The business began as a part-time venture focused on manufacturing fishing lures and tackle, operating out of a renovated chicken coop behind the Fleischhacker family home in Minnetonka, USA. An approach by Earl Bakken, (founder of Medtronic and developer of the heart pacemaker) to design and manufacture small diameter pacing leads that would connect the pacemaker to a patient's heart, resulted in the company moving into the medical device industry and in 1981 the headquarter facility in Chaska, Minnesota was opened. Lake Region Medical remained a family owned company until March 2014, when it was taken over by Accellent. Acquired subsequently by Greatbatch Medical in August 2015 the company was rebranded as Lake Region Medical an Integer Company.

Irish Site History: The company opened the Irish plant in New Ross Co. Wexford in 1994 with an initial workforce of 15, to manufacture uncoated guide wires for the European market. The New Ross site now employs over 750 people and is the largest guide wire manufacturing plant in the world (Lake Region Medical). It ships over 30 million guide wires annually to more than 30 countries globally. In June 2012, Lake Region Medical New Ross became the first Medical Device Manufacturer in Europe to receive the Shingo Accreditation when it was awarded the Shingo Bronze Medallion), as well as being awarded Ireland's MedTech Company of the Year (Lake Region Medical).

Acquisition: For the New Ross site, the effects of the 2014 acquisition were dramatic. Overnight, it went from being one of three plants in a family owned medium sized business to one of twenty sites in a $500,000,000 organisation with 5,000 employees. However the knowledge and experience gained since starting out on their continuous improvement journey in 2003, and the fact that the New Ross plant was recognised as

	a centre of excellence had put them in a position to avail of opportunities relating to what that might arise in the new organisation.
Products:	The New Ross site produces on average 650,000 vascular access diagnostic interventional guide wires weekly, ranging in length from 0.2m to 5m.
Process:	The guide wire manufacturing process is a highly complex operation involving three distinct processes. A spring like coil which gives guide wires the flexibility to manoeuvre through the body, a core to provide strength and flexibility, an assembly process that can have up to ten distinct operations The assembled guide wires are then inspected and cleaned before being packaged in bulk or singular configuration and distributed to our customers as requested.
Culture:	Lake Region Medical New Ross is very much a multicultural company with people from over seventeen different nationalities working in the organisation. The structure is relatively flat with a ratio of 1 supervisor to 50 production associates, and a set of functional managers reporting to the site leader. To guide behaviour across the organisation the company has in place a set of principles which all employees are obliged to adhere to. These principles are respect, commitment, continuous improvement, enterprise alignment, integrity, and leadership. A peer recognition system is in place to publicly acknowledge employees who display these values and recognize them as our role models.

Corporate Citizenship: Being a good corporate citizen and playing a supportive role in the local community is important to Lake Region Medical and benchmarking visits from companies throughout Ireland, the United Kingdom and from further afield are a regular occurrence. Lake Region Medical has always taken an active role in charity initiatives. In 2008, a formal charity fundraising committee was established to organise regular events to generate fun and raise funds. Every year employees select a local and national charity to which the funds raised in that year will be donated. As well as donating over €250,000 to charity, 16 employees have travelled to Africa as volunteers to assist in education and building projects.

Continuous Improvement: Lake Region Medical first began its lean and continuous improvement journey in June 2003 with a number of kaizen events facilitated by external consultants aimed at removing waste from operational processes. As their knowledge of lean / continuous improvement grew, the focus broadened towards improving all elements of the business in an effort to improve customer satisfaction. To support this strategy, in 2004 an enterprise excellence group was established to engrain a culture of continuous improvement. Lean tools such as TPM, value stream mapping, standard work, scientific problem solving are now practiced on a daily basis and the results are visible throughout the plant. Robust systems have been developed to support all processes and improvement activities. Lake Region Medical aim is to create lean / continuous improvement expertise internally. It strives to develop a range of levels of knowledge throughout the organisation, to include subject matter experts in lean, six sigma, facilitation, VSM, TWI, and other areas. An internal training academy is in place since 2012 where employees are trained to a national accredited certificate standard over a three month period. All employees are trained on lean fundamentals, while scientific problem solving has to date been delivered to over 350 employees.

As an original equipment manufacturer operating in a highly competitive market Lake Region Medical need to be continuously focused on reducing costs through the application of lean in order to contain increases in salaries, raw materials and utilities rather than passing them on to our customers. The on-going investment in lean training has helped to create an environment where all employees work together to identify waste and non-value adding activities with a view to eliminating or reducing them. In production areas once processes have reached a high level of lean maturity the next phase involves the in-house design and machine build team who attempt to automate it. Examples of cost and productivity improvements include:

- 450% increase in assembly productivity since 2003
- 50% improvement in coating productivity
- 85% reduction in manufacturing lead time for our main product family
- Sales revenue per employee improved by 15% since 2006
- >25% reduction of inventory value in 2014

Appendix 2   The Research Onion

The Research Onion diagram showing concentric rings. From outermost to innermost: **Philosophies** (Positivism, Realism, Interpretivism, Pragmatism); **Approaches** (Deductive, Inductive); **Strategies** (Experiment, Survey, Case study, Action research, Grounded theory, Ethnography, Archival research); **Choices** (Mono method, Mixed methods, Multi-method); **Time horizons** (Cross-sectional, Longitudinal); **Techniques and procedures** (Data collection and data analysis).

Source: Saunders *et al*. (2011: 83).

Appendix 3   Sample A3 Problem Solving Project

Appendix 4   The Abductive Research Process

Kovács and Spens (2005)

Appendix 5   Participation Request Letter and Participant Information Sheet

Dear .....,

As you may be aware Lake Region Medical's Continuous Improvement Director Noel Hennessey is currently studying for his Doctorate in Business Administration at Waterford Institute of Technology. The next phase of Noel's research involves him interviewing members of the Lake Region Medical Team Leader and Manager groups on a one to one basis. This is the purpose of this mail as he is now looking for people to participate. This is entirely voluntary and without obligation.

The premise of Noel's study is based around the idea that when employees become involved in continuous improvement activities, like for example 8 step problem solving that it stimulates a process of social exchange (the sense of obligation that parties may feel towards each other as they interact).

The taped interviews will take approx. 45 to 60 minutes each and will be conducted on site over a three month period between January and March 2016. The findings from the study will be completely confidential and will only be used for research purposes.

Please find attached a copy of the research participant information sheet and consent form. If you are interested in taking part in or would like to know more about the study please let me know before January 25th.

Best Regards,

_____

XXXX XXXXXX

H.R. Administrator

Lake Region Medical

New Ross

Co. Wexford

INFORMATION SHEET FOR RESEARCH PARTICIPANTS

Research Overview
This study explores the research proposition that when employees become involved in continuous improvement programs that it may stimulate a process of social exchange (the sense of obligation that is build up between parties who are reciprocally interact with each other), which in turn may lead to positive outcomes such as employee engagement.

Role of Participants
The Lake Region Medical employees selected for this study will come from within the production team leader and manager groups. The researcher selected these employees because of their experience and exposure to continuous improvement events and 8 step problem solving in particular. Individual critical incident interviews will be used to explore organisational members' involvement in the 8 step problem process and the potential connection to social exchange as outlined above. All interviews will be recorded to facilitate transcription and analysis.

Critical Incident Interview
Critical incident interviews require the interviewees to talk about incidents which have most meaning for them in their own words. The role of the interviewer is to note moments of major significance which he can expand on by asking the how, what, and why questions in order to get a deeper understanding of the phenomenon under investigation.

Participant Time Commitment
The interview should take approximately 45 to 60 minutes.

Research Location
The research will take place in Lake Region Medical.

Participant's Anonymity
All interviews will be coded to protect the anonymity of the participant. Only the researcher and his supervisor will have access to the raw data contained in the interviews.

Rights of Participants
Participants have the right not to answer questions and withdraw from the study at any time up until data input. Participants have also the right to contact the Research Ethics Committee at W.I.T. if they have any concerns about participating in the research.

Contact Information
Researcher: xxxx.xxxxxxxxx@xxxxxxxxxxxxxxxx.com, phone: xxx xxxxxx
Research Supervisor: xxxxxxxxxxxx@xxx.ie, phone: xxx xxxxxx

CONSENT FORM

Consent Section:

I, the undersigned, declare that I am willing to take part in research for the project entitled *"Can a continuous improvement initiative create a process of social exchange which is conducive to stimulating employee engagement"*

I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate. The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.

I am also aware that my participation in this study may be recorded and I agree to this. However, should I feel uncomfortable at any time I can request that the recording equipment be switched off. I am entitled to copies of all recordings made and am fully informed as to what will happen to these recordings once the study is completed. I will also be given access to the transcript of the recording for review in order to ensure that there are no inaccuracies. I understand that direct quotations may be used but that the participants' anonymity will be protected.

I fully understand that there is no obligation on me to participate in this study and fully understand that I am free to withdraw my participation at any time up to data entry stage without having to explain or give a reason. I also realise that I am entitled to full confidentiality in terms of my participation and personal details.

_____   _____

Signature of participant   Date

Appendix 6   Ethical Approval Letter

Annestown

Co. Waterford

December 4th 2015

To whom it may concern;

I am writing this letter in order to seek ethical approval for my DBA thesis which I am completing as part of my doctoral studies at WIT. My supervisor is Dr. Jennifer Hennessy.

My thesis seeks to explore whether a continuous improvement initiative can create a process of social exchange which is conducive to stimulating employee engagement.

This qualitative research will use an exploratory case study approach and the data will be collected from interviews carried out by the researcher using the critical incident technique method. The fifteen research subjects who are employed by Lake Region Medical as Production Team Leaders for >8 years are all experienced in using continuous improvement tools and in particular the 8 step problem solving process which the critical incident interviews will focus on. Five Lake Region Medical managers will also be interviewed using the critical incident technique in order to bring a different perspective to the study. The data collected will be analysed using thematic analysis.

In the attached document I have set out how I intend to address the ethical considerations arising from my study under the headings of; considerations with regard to the use of human subjects; the procedures utilised during the data collection and analysis phases of the project, and the rights of the research participants.

If you require any further details or clarifications please do not hesitate to contact me at your earliest convenience.

Yours Sincerely,

_____

Noel Hennessey (DBA student)

Overview of the Study

This study explores the research proposition that when employees become involved in continuous improvement programs that it may stimulate a process of social exchange, which in turn may lead to positive psychological outcomes such as employee engagement. In 2003 Lake Region Medical initiated a continuous improvement program to reduce costs and improve competitiveness. The research will use critical incident technique methodology within a case study framework to investigate if the continuous improvement program stimulates social exchange and if this interchange can be linked to employee engagement. Based on the above, the research question that the current study seeks to answer is;

Can a continuous improvement initiative create a process of social exchange which is conducive to stimulating employee engagement?

In exploring the research question above, the research objectives are as follows:

1. To establish if a process of social exchange took place within the context of the continuous improvement activity.
2. To establish the elements within the continuous improvement activity that contributed to this sense of exchange.
3. To identify how these criteria contributed to the process of exchange that took place within the continuous improvement activity.
4. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

A case study approach will be utilised and data will be collected from interviews with production team leaders and mangers using critical incident technique. The data collected will be analysed using thematic analysis.

Considerations with regard to the use of Human Subjects

- Participants will be made fully aware in advance about the purpose of the research, their role in particular and the steps the researcher has in place to ensure confidentially (contained in the information sheet which the researcher will ask the interviewees to read before commencing the study).
- The nature of the study is entirely voluntary. It is proposed that requests for

105

volunteers will be coordinated through a junior member of the human resources department and all interviews will be carried out with informed consent (including a confidentiality agreement) signed in advance. Participants will also be asked to read the information sheet before commencement.

- One strategy by the researcher to build confidence amongst all those involved is to assure them that the contributions and insights they provide will be accurately represented. This assurance involves the researcher having follow up sessions with each interviewee to ensure his interpretation of the events are correctly captured and the participants will be given the opportunity to review their transcripts, thereby ensuring that their stories are represented correctly to the reader.
- Direct quotations will be used only with the participant's approval (will be included in the consent form). Furthermore in the consent form participants will also be informed that if there is any question that they do not wish to answer that they right to do so.

Procedures utilised during the Data Collection and Analysis Phases of the Project

Pilot Study

- Before the research commences a pilot study will be carried out to validate the use of critical incident technique as a data collection vehicle and to identify issues which may require refinement. The pilot study will be used by the researcher to evaluate his interview questions (Ball, 1993) and the critical incident technique process in general, which should result in a more focused inquiry, enabling him to achieve a more effective study (Gable, 1994; Samson, 2004).

Data Collection

- While employing critical incident technique the researcher will adopt the phenomenological approach developed by Chell (2012) from Flanagan's (1954) original work. This six phase model begins with steps one and two where the researcher outlines the purpose and ethical issues around the study before moving on to identify the central theme or event for the subject to focus on (Chell, 2012). In this study the event being investigated is the eight step problem solving process. In step three the researcher steers the interview and probes the critical incidents until he is satisfied with his own understanding and interpretation of the events at which stage the interview is concluded. In the final two steps the researcher analyses the data and presents the findings.
- In dealing with the issue of power dynamics the researcher will adopt a friendly and relaxed approach and will hold all the interviews in the research subjects' normal working environment. The interviews will take place in a quiet and neutral room where the interview cannot be overheard.
- With the interviewees permission (as identified on the consent form) the data collected through the interviews will be recorded. The interviewees will also have

the right not to have the interview recorded or may ask that the tape recorder be switched off at any stage during the interview.

Data Analysis

- The researcher has chosen to use a thematic approach to analyse the qualitative data as outlined by Creswell (2007). It will be carried out in three stages starting with the coding of the text which will allow the generation of descriptive themes before finally formulating analytical themes (Thomas and Harden, 2008). The software employed to help analyse the transcripts will be NVivo 10. NVivo was selected because it has the ability to handle very large amounts of data in a consistent and structured approach which allows for deep and flexible analysis (Bergin, 2011).

Rights of the Research Participants

- All participants will be given an information sheet which explains what the study is about and what their role in the study will be.
- All participants will be asked to sign a letter of consent (which will include a confidentiality agreement) in advance and as part of this will be advised that may withdraw from the study at any stage should they wish to do so up to the point of data entry.
- With regard to data protection and confidentiality the data collected will be stored on the researcher's personal computer which will be password protected. No names will be attributed to any transcripts and unique codes will be given to the transcripts. Only the researcher and his supervisor will have access to the interview transcripts. All transcripts and recordings will be stored securely for a period of seven years on a back-up drive once the study is completed.

Preface to Paper 3

This is the third paper submitted as part of the four-paper series in partial completion of the Doctorate in Business Administration (DBA) at WIT. In the previous paper the researcher presented his methodological approach and the operational details of the study. In paper three the researcher will outline his research design, data collection and analysis methodology as it relates to the research question and objectives, as well as presenting the initial findings arising from the pilot interviews.

The most significant evolution between the papers occurred between the first submission of paper one to the final submission of paper two. There was a clearer trajectory between paper two and three as the research focus was refined at this point in the research process and this is reflected in the fact that the research question and objectives remained mainly unchanged between these papers. The refinement of the research question, objectives and conceptual framework in paper two enhanced the researcher's understanding of the topic under investigation and that this in turn ensured that paper three was written from a very focused standpoint.

Much of the learning that occurred through the writing of this paper was facilitated through the refinements made to the various drafts of the paper as opposed to feedback from the doctoral colloquium examiners, as the paper was recommended with minor amendments. This reflects the insight gained into both the research process and write up in interaction with the previous paper cycles.

The most important development during the writing of this paper was in terms of the learning that occurred through the creation of the interview questions. Take for instance research objective 1 which explored the following;

> To consider the existence of social exchange within the context of the continuous improvement activity.

In the first draft of the interview questions, the researcher was so focused on developing questions to identify if social exhange was present, that he missed the central focus within the questions, which was, not just to identify whether social exchange was present, but to

identify whether it was actually present within the context of the continuous improvement environment. For example, it is possible that social exchange might be present because of connections outside of the continuous improvement environment, such as membership of the same football team or social grouping.

The early drafts of the interview questions were also based on the researcher's existing applied knowledge of the topic rather than being fully informed by literature. To address this discrepancy the researcher revisited both the social exchange and engagement literature. The amendment in the interview template to consider both the focus and the literature was significant and resulted in some of the original questions being discarded.

A further example of the evolving manner in which the interviews questions were created is how in the preliminary drafts the researcher developed four separate sets of interview questions, designed to answer each of the four research objectives. However as the process evolved it became obvious to the researcher that some of the interview questions were linked to more than one of the research objectives. This on reflection is not suprising due to the interconnectivity between the first three research objectives. This led to the creation of one overall set of interview questions with a column signifying the connection between each question and the research objectives.

In the early drafts of paper three the researcher also struggled with terminology in the data collection and analysis process. Key to resolving this was understanding the importance of language in research methodology and being able to differentiate between terms such as trustworthiness, dependability, confirmability and credibility (Lincoln and Guba, 1985). It was only after gaining this understanding that the researcher could put a strategy in place to establish these elements within his study.

Paper three was submitted for review on March 14th 2016. The feedback received following the doctoral colloquium were for minor revisions and included the following:

- Provide some context around the employee engagement environment within the studied organisation.

This was achieved with the inclusion in this preface of a section informed by Lake Region Medical's senior leadership team, detailing the current situation with regard to employee engagement.

- The research question 'Can a continuous improvement initiative create a process of social exchange which is conducive to stimulating employee engagement?' needs to be reframed in order to generate a more open investigation.

The research aim was revised to read; 'To explore whether a continuous improvement initative could potentially create a process of social exchange which is conducive to stimulating employee engagement'. The inclusion of the words 'explore and potentially' are significant in different ways. Explore opens up the research focus considerably whereas 'potentially' reflects the fact that this study is focused on exploring the connection**, if any,** between social exchange and continuous improvement. As a result of this amendment, the research question now reads; '*Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?*

- Revisit the data collection and analysis schedule which appears ambitious.

The optimistic timeline outlined in the first submission of paper three was another indication of the researcher's lack of understanding of what the data collection and analysis process entailed. The fact that the researcher required an additional five weeks than anticipated in the original schedule, three of which he was working full time on the analysis is testament to the amout of work required to carry out this process. Having the extra time allowed the researcher to fully investigate each strand or potential connection between the elements of social exchange, continuous improvement and engagement which emerged from the analysis. It is also important to note that the researcher had to learn to differentiate between what was interesting, and what was relevant to the research. This was achieved by constantly returning to the research objectives to verify relevance. Moving from codes to themes was also very time consuming. Thematic maps played a pivotal role in this process and

versions of maps were created, each building on the previous one until the researcher was satisfied that the final maps were an accurate representation of the findings that emerged from the analysis.

As the researcher prepared for the final phase of the study he was mindful of the weakening of the employee engagement climate within the studied organisation since the research first began in June 2013. In particular, the results of an independent survey carried out in late 2015 showed that engagement within the New Ross plant had reduced significantly since the previous survey carried out two years earlier. While acknowledging that maintaining employee engagement at a high level is a very complex issue the prevailing view of the local leadership team was that this drop in engagement was connected to Lake Region Medical transitioning from being a family-owned company to being part of Integer, the world's largest supplier of components to the Medical Device industry. This was as a result of two separate acquisitions, firstly by Accellent in March 2014 and then by Greatbatch Medical in August 2015. The effects of this acquisition cycle on the New Ross plant was dramatic as LRM had to come to terms with moving from a position where it was one of three plants within a family owned company to one of twenty-eight branches in a major multi-national organisation. Acquisitions by their very nature bring uncertainty, particularly to the junior partner as people at all levels of the organisation ponder on their future in the new organisational structure. The New Ross senior leadership team's immediate response was to concentrate all available resources towards revenue generating activities and positioning the plant to avail of any new business opportunities arising from the acquisition. While this strategy was successful from an operational perspective with significant investment made in the plant, it may have had a negative impact on engagement based on the survey feedback.

References

Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic Inquiry.* Newbury Park, California: Sage.

Paper 3: Design and Initial Findings

Abstract

The research question for this study is '*Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?*' The study takes place in Lake Region Medical, New Ross, Co. Wexford where the researcher is employed as Continuous Improvement Director. This paper presents the research design and pilot for the study, which involves using critical incident technique interviews with members of the company's team leader and manager groups.

The interview questions focus principally on exploring the process of social exchange through the company's 8 step problem solving approach which is representative of a form of continuous improvement. As a result of three pilot interviews carried out as part of the research, the interview questions and the proposed data analysis process have been modified and strengthened for the final phase of this study. The learning gained by the researcher in carrying out these interviews has also enabled him to improve his interviewing style and probing ability for the next phase of his research.

Introduction

This is the third paper in a series of four working papers which will form the basis of a thesis to be submitted in 2017 for the award of Doctorate in Business Administration (DBA) from Waterford Institute of Technology (WIT). The paper will begin with the researcher introducing his refined conceptual framework before outlining the use of critical incident technique as a research approach. In the second part of the paper the researcher will discuss the development of the research instrument which was utilised in the three pilot interviews conducted as part of the study. The data analysis strategy will then be presented which will include details of the adjustments made to the interview questions for use in the remainder of the study. The paper will conclude with an outline of the operational details for the data collection and analysis process for the final phase of the research.

Refined Conceptual Framework

A key struggle for the researcher was understanding social exchange from within a continuous improvement perspective rather than through an employee engagement lens, which was the case in the previous papers. For the researcher the challenge was based around coming to an understanding that it is not the continuous improvement process itself which stimulates employee engagement, but the social exchange which occurs during the continuous improvement process (see Figure 1 below). Employee engagement occurs once the process of social exchange has been created (Saks, 2006). The focus in the current study is on the relationship between a continuous improvement activity and social exchange and more specifically whether the continuous improvement activity creates a social exchange. Employee engagement is also of interest where the researcher explores whether the employees involved in the research perceive a sense of engagement from the continuous improvement activity (Figure 1).
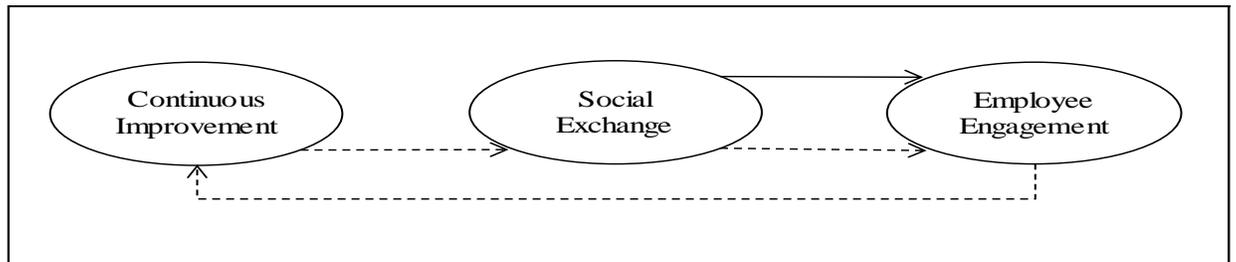
Figure 1: Refined conceptual framework

Research Question

The proposed research question for the current study is therefore:

> *Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?*

Based on the above, the research objectives are as follows:

1. To consider the extent of social exchange within the context of the continuous improvement activity.

2. To establish the elements within the continuous improvement activity that contributed to this sense of exchange.

3. To identify how these criteria contributed to the process of exchange that took place within the continuous improvement activity.

4. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

Research Design

A research design or protocol is necessary to organise all the various activities surrounding the research, including the collection and analysis of the data in order to achieve the research objectives (Easterby-Smith *et al.,* 2012). In this study the researcher will adopt the model proposed by Gremler (2004) which is based on the critical incident technique. This model (refer to appendix 2) has five distinct phases beginning with problem definition where the researcher defines the research question and notes how to determine if the critical incident technique is the appropriate method for investigating the phenomenon. While this stage has already been covered in paper two it was worthwhile revisiting the research question and objectives above in order to provide a context for this paper.

In the second phase of a critical incident technique approach, the researcher defines what a critical incident is and describes the unit of analysis, data collection instrument and the sample size (addressed in paper two). While introduced in paper two the researcher will elaborate on this second phase, and in particular will focus on the data collection instrument and the set of interview questions that will guide the process. In phases 3, 4 and 5 which deal with the actual process of data collection, analysis and the reporting elements of the research, the researcher will be employing NVivo which is a software package that supports qualitative research. This process will be covered later in this paper.

According to Edvardsson (1992:18) the requirement for an incident to be defined as critical is '*that it can be described in detail and that it deviates significantly either positively or negatively, from what is normal or expected'.* While in this study the researcher is primarily concerned with positive critical incidents, i.e. those which trigger in the interviewee feelings

of positive social exchange such as reciprocation, pride, satisfaction and excitement, he will also be keen to learn about incidents which had a negative impact on social exchange and subsequent engagement.

In the context of this study the critical incident will be the eight step problem solving process (8SPSP). 8SPSP is one of the many continuous improvement systems used in the studied organisation. Others include standard work, total productive maintenance, training within industry, value stream mapping and design for manufacture. 8SPSP was deemed the most appropriate for this study because it offers many opportunities for social exchange such as training, reciprocation, employee involvement, recognition, and team work.

The Research Instrument Design in the Context of Critical Incident Research

Designing critical incident technique interviews requires detailed planning as researchers navigate around such delicate decisions as who to interview, where the interviews should take place, and what approach to take. However the most important decisions concern the development of interview questions that will answer the research question and objectives and how the data will be analysed (Qu and Dumay, 2011).

The process of designing the critical incident technique questions (refer to appendix 3 and 4) was a major learning experience for the researcher. Over a period of eight weeks the design process went through four distinct phases where new layers of detail were introduced to increase the robustness of the questions. These phases involved linking each question to a research objective, ensuring the questions were grounded in theory and including the researcher's rationale behind each question.

Before drafting the pilot interview questions, the researcher reviewed the relevant critical incident technique, employee engagement and social exchange literature and referred back to papers one and two. The researcher also deconstructed the research question which had by now evolved to become a research aim and research objectives to ensure that he had a clear understanding of each of the research objectives. This provided the researcher with the theoretical base on which to create a template to ensure that only questions which related directly to both the literature and research question and objectives would be used. In total two

separate sets (team leaders and managers) of twenty four opened ended questions were constructed to capture the context and meaning of the phenomenon under investigation. How the interview questions were developed will now be outlined.

The questions for the team leaders were developed in two separate sections. In section one there are a set of questions which attempted to establish the presence of social exchange, how the continuous improvement process led to social exchange and how this actually took place. These questions are linked to research objectives one, two and three. The second section aimed to answer research objective number four, which was to identify the perceived impact of the social exchange on engagement from the employee's perspective. The manager interview questions, while covering the same themes as the team leader interviews, were designed to establish the manager's viewpoint. Of particular significance are the questions relating to increased discretionary effort on the part of the team leaders as a result of a social exchange taking place.

Of particular note in the construction of the research question and objectives was the addition of a 'rationale' and a 'literature' column during one of the question reworks. These were included to ensure that the researcher did not lose sight of the principle of reciprocity which underlines social exchange theory as well as ensuring that the questions asked were founded on relevant literature (Table 1). Two examples of questions from both the team leader and manager interviews are provided for illustration purposes.

Table 1 Pilot interview team leader / manager questions 01 and 04.

Q	Team Leader Interview	Manager Interview	Rationale	Literature	R.O.
01	Can you tell me about your first involvement in an 8 step problem	What criteria did you use when deciding who to put forward for involvement?	In most cases it is the leader who encourages his subordinate to become involved and sets in	One of the most important social exchange relationships employees have is with their immediate leader (Coyle-Shapiro and	1, 2

| | solving project (8SPSP) and if you put yourself forward or were you invited to participate. | | motion the first exchange.

To determine if 'rules' pertaining to the process of social exchange were laid down at the start or did a sense of obligation just develop naturally in line with social exchange theory.

Was the employee pleased, indifferent or disappointed to be chosen? Trying to establish whether this sense of being selected was an early stimulant of social exchange?

Did it stimulate a sense of obligation and a | Shore, 2007; Coyle-Shapiro and Conway, 2005; Purcell, 2014; Setton *et al.*, 1997; Wayne *et al.*, 1997). When a leader provides benefits above the normal requirements to the employee, reciprocity comes in to play (Wayne, *et al.*, 1997). Socioemotional benefits such as pride at being selected from among peers is a factor in social exchange (Shore *et al.*, 2009). Recognition builds self-esteem and creates a social exchange (Lynch *et al.*, 1999). Social exchange theory explains how when one party does the other a favour, it creates a sense of obligation on the receiver to reciprocate (Gruman and Saks, 2011; Wayne *et al.*, 1997). The | |

			desire to reciprocate?	reciprocation cycle begins when one party makes a first move (Cropanzano and Mitchell, 2005).	
04	Did the leader keep in touch on a regular basis to inquire as to how the project was progressing?	Did you keep in touch on a regular basis to inquire as to how the project was progressing? Do you think that this had any impact on your relationship and how you interacted with them?	To understand the level of support and encouragement the leader was providing and whether their involvement stimulated further exchange.	Leaders who routinely deliver feedback and recognition are seen by their followers to be investing in the social exchange relationship (Dulebohn *et al.*, 2012)	1, 2, 3

While the researcher has presented both the team leader and manager questions in Table 1, this is just for discussion purposes and these are separated in the full set of questions (Appendices 3 and 4). While the lists of questions in the first phase appear quite lengthy, it should be noted that some of these questions are more probing in nature. The researcher anticipates that as his understanding of the research matter develops further during the course of the study, these questions will be pared back in phases two and three of the data collection process.

Pilot Study

According to Van Teijlingen and Hundley (2002) pilot studies are an effective method to identify weaknesses in the research strategy as well as address practical issues at an early stage, which if left unresolved could potentially jeopardise the research project. In his pilot study, the researcher was primarily concerned with testing the legitimacy of his interview questions to ensure that the questions were actually asking what they were supposed to be asking and that they were relevant to the research question and research objectives. Two team leaders and one manager who met the participant selection criteria but will have no further involvement in the study were chosen as the pilot interviewees. The protocols around the purpose of the study, confidentiality and other ethical issues were outlined in advance of the interviews taking place. While the researcher had originally intended for the interviews to take place in the subject's main workplace this proved unfeasible. Instead the interviews took place in the conference room normally reserved for customers and corporate visitors. The pilot interviews were taped and were then transcribed for analysis with the interviewee names replaced with the letter A, B and C (Table 2).

Table 2 Pilot interviewees

Name	Job Title	Length of interview (minutes)
A	Assembly Team Leader	29
B	Packaging Team Leader	34
C	Production Manager	38

A key learning for the researcher from the pilot study was the need to change his normal informal communication style to become more formal and objective so as to try not to lead the interviewee when answering. This is of particular importance as the researcher is well known to all of the research subjects due to his insider role in the studied organisation (Brannick and Roche, 1997). To overcome this dual role challenge (that of researcher and professional in the same setting), the researcher will explain at the outset of the forthcoming interviews the requirement for taking this formal approach and the requirement to pose questions in an objective way. The interview transcripts also highlight a number of missed

opportunities by the researcher to request that the interviewee expand on answers given. This will be addressed through the addition and use of probing questions (Kvale, 1996). Another key learning is the need for the researcher to stick closely to the text of the pilot interview questions, as the key to answering the research question lay in the text.

A major challenge for the researcher which emerged from the pilot study is that the process of social exchange which lies at the heart of this study to a large extent appears to occur unwittingly, and that individuals are unable to talk directly about a process of social exchange due to its primarily unconscious nature i.e. the team leaders involved seemed to be unaware of a process of social exchange taking place. For example, after Team Leader B spoke about the appreciation she felt towards Manager C for selecting her to participate in 8SPSP the researcher asked her how she returned this appreciation. She replied '*Well, to date, I have more 8SPSPs finished than anybody in the company'.* However later in the interview when asked has her experience over time with 8SPSP strengthened her obligation towards Manager C, she answered *'Not really'.* To address this social exchange awareness anomaly, the researcher will prepare additional probes (Kvale, 1996) to ensure that he gains a true understanding of the process of social exchange as interpreted by the interviewees in the main study. These probes will include; 'Do you have more interaction with your manager since you completed your first 8SPSP?' and 'If your manager has a particular issue or concern that needs to be addressed, is he more likely to be involved in the continuous improvement process than previously ?'.

Following the pilot study the researcher also amended other questions in order to elect a deeper response from the interviewees as well as addressing questions which may have been leading in nature. For example, team leader question six was originally worded 'Do you feel obligated to your leader as a result of your participation in 8SPSP?' This has now been changed to 'Has participation in 8SPSP changed your relationship with your leader?' In a similar vein team leader question fifteen 'Has the experience in 8SPSP made you more likely to identify opportunities for improvement and put forward suggestions?' has been amended to 'Has the experience in 8SPSP changed how you go about your work on a daily basis?'. Regarding the manager interview template, question seven has been changed to 'What do you think is the most important element in a manager / employee relationship ?'. In the

earlier draft the question was worded 'How important is trust in the manager / employee relationship ?' which could have acted as a prompt for the manager to give a positive answer. With a revised and more robust data collection method in place for the next phase of this research the researcher will now proceed to outline his data analysis approach.

Data Analysis Strategy

In developing a strategy to carry out a qualitative data analysis the researcher will have to overcome what Miles and Huberman (1984) describes as the greatest difficulty in qualitative data, namely determining which analysis methods to use. Content analysis is the umbrella term used for a number of different approaches used for analysing and understanding groups of text (Powers and Knapp, 2010, as cited by Vaismoradi *et al.*, 2013). According to Sandelowski (2000) it is the method of choice in qualitative descriptive studies. In this study as the narratives will be collected from the respondent's perspective, in their own words, about the incidents which have most meaning for them, the researcher has chosen to incorporate a thematic approach to analyse the qualitative data as outlined by Creswell (2007). Thematic analysis is a reflexive, interactive and iterative process. Thematic coding is also a flexible approach which can be used as part of a wider data analysis strategy or simply a method on its own (Braun and Clark, 2006; Fereday and Muir-Cochrane, 2006).

Data management is the collective term used to ensure that all data generated and collected during a research project is properly controlled. Data management is an integral part of the research process and delivers quality and accountability in the data analysis phase. The process of data analysis and data management is outlined below.

The interview transcripts will be inputted, coded and analysed through the use of NVivo which according to Bergin (2011) and Gibbs (2002) is a very powerful analysis tool that presents the findings of the various relationships in a highly visual manner that provides great clarity and leads to clear interpretation. This view is supported by Bazely and Jackson (2013) who advocate using NVivo, as it greatly increases the effectiveness and efficiency of data analysis through its processing capability. However, this effectiveness needs to be tempered with caution, with great care being taken to avoid generating flawed results through the

incorrect use of the software (Bazely and Jackson, 2013). Similarly, Leech and Onwuegbuzie (2011) warn against an over reliance on the software, emphasising the need for the researcher to remain connected to the data.

Thematic analysis will be carried out in six phases as proposed by Braun and Clarke (2006), starting with the researcher becoming familiar with the data from repeated reading. In phase two the researcher begins to generate initial codes and create a list of ideas, while making sure to take a systematic approach for the coding and classification. Nodes and node hierarchies will be created to identify concepts, categories and associated sub-categories. The researcher will then sort the codes into potential themes while also looking at opportunities to combine codes into an overarching theme.

In phase four the researcher conducts a review of the themes discarding those which do not have enough data to support them or where the data is too diverse. This allows in the next phase the opportunity for further refinement to provide increased clarity and structure. The final phase deals with producing a report that will in the words of Braun and Clarke (2006: 23) *'tell the complicated story of your data in which convinces the reader of the merit and validity of your analysis'*.

Boyatzis (1998) highlights the need for the researcher to have a thorough understanding of his field of inquiry, hence the researcher's immersion in the social exchange and employee engagement literature. An advantage of using the critical incident technique is that it allows the researcher to identify repetition of patterns with context and outcomes (Chell, 2012) during this stage of the analysis.

While intercoder reliability[3] can offer greater legitimacy, in this study all the analysis will be performed by the researcher due to the confidentiality agreement set between the researcher and participants. However, the researcher will use memos within NVivo to critically reflect on his work and to record progress, setbacks, frustrations and ideas for the analysis process on his data (Krefting, 1991).

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[3] Intercoder reliability refers to the need for consistency when two or more coders are carrying out the data analysis (Graneheim and Lundman, 2004).

Data Robustness

The concepts of trustworthiness, credibility, dependability and transferability (Lincoln and Guba, 1985) are worthy of debate in this context. A fundamental characteristic of the research process is to ensure that the data being presented is trustworthy (Dey, 1993; Lincoln and Guba, 1985) and therefore each study must be evaluated with regard to the procedures used to produce the findings (Graneheim and Lundman, 2004). Tseng and Fogg (1999) define trustworthiness as 'well-intentioned, truthful and unbiased'. The fact that this is a single case study with the researcher embedded in the organisation increases the requirement to give readers confidence in the data collection, management and analysis process.

While there is no clear definition of credibility (Hiligoss and Rieh, 2008), most researchers are in agreement that it comes down to believable people presenting believable information (Tseng and Fogg, 1999). It is also important to point out that while something may be credible this doesn't necessarily mean that it is true. To address the issue of credibility the researcher has put in place a number of measures including conducting a pilot study and carrying out critical incident technique interviews with two distinct groups of employees. To ensure that his interpretations are accurate the researcher will after each set of interviews present the findings to the participants for verification (Boyatzis, 1998; Hirschman, 1986; Lincoln and Guba, 1985). Likewise approval will be sought to include any direct quotes used in the final report in advance of publication.

This study is exploratory in nature and uses interpretive case study method. Therefore a rich description of a specific issue within a certain context is provided. The researcher is not therefore focused on the question of transferability but instead provides a rich contextual basis for future researchers to build on and develop their own study.

Dependability refers to the stability or consistency of the data collection and analysis approach during the study and highlights the necessity for the researcher to account for the ever-changing context within which the research is taking place (Easterby-Smith *et al.,* 2012). Confirmability means the degree to which the outcomes can be confirmed or corroborated by other people (Easterby-Smith *et al.,* 2012). An important strategy for establishing dependability and confirmability is for the researcher to create and document an

audit trail, so that readers can follow the sequence of events, which lead him to his findings (Dey, 1993; Miles and Huberman, 1984). In this research the audit trail is being created in a number of ways including a preface section between papers three and four, a reflective log, and the use of memos during the data collection and analysis phases. The researcher will also include quotes from the critical incident technique interviews in the final report to display the logic applied and conclusions reached (Bazeley, 2009).

Pilot Study Findings

In highlighting some of the preliminary findings from the pilot study it is important to firstly note that these findings are based on the three pilot interviews only. They are therefore a reflection of the researcher's first attempt to explore the data and to highlight some potential areas which are worthy of future exploration and which may or may not emerge in the next phase of this study. The initial findings from the pilot study would suggest that; social exchange may take place within the 8SPSP; that there are a number of elements which contribute to the exchange such as development opportunities, recognition and availability of resources; that the process of exchange is mainly built on leader trust, and finally that social exchange may have a positive impact on employee engagement.

8SPSP as a Vehicle for Social Exchange

The findings of the pilot interviews would suggest that a process of social exchange occurred within the context of the continuous improvement activity and that 8SPSP provided an ideal vehicle for social exchange to take place. The main theme that emerged was the opportunity for interaction that was present. The participants were given the opportunity to interact with their work, leader, colleagues and wider organisation. It is this personal contact where the relationships necessary for the social exchange to occur can be built and strengthened. As Team leader A noted, *'I really enjoyed the experience of work on 8SPSP; I've learned loads and made lots of new friends'.* Team leader B highlighted the benefit of engaging with more experienced colleagues, *'what I liked about working on the 8SPSP was that it gave me the opportunity to show what I could do, to people a lot more qualified than myself'.* The team

leaders acknowledged how the support and direction provided by the leader and team members was vital in building their confidence to take on the opportunity.

Social Exchange Stimulants within the Context of the 8SPSP

The main themes which emerged as contributory elements to social exchange taking place were a sense of leadership, work being recognised and an opportunity for personal development being provided. Team leader A reflected on his manager: '*I always find him very approachable, whether it be work or at a personal level, he is clear on what he wants you to do or how to go about problems you're having yourself. Very calm, gives responsibility and advice on how you would deal with [situations] yourself*'. With regard to being recognised for their contribution, Team Leader B noted: '*I got many thank you cards and mails from my manager… It was always nice to be, you know, appreciated*'. When contemplating the impact of managerial feedback on his personal development Team leader B also stated that: '*…it gave me the push I needed….I'd like to educate myself more now… look at doing a degree at Waterford Institute of Technology*'. These responses may suggest that personal recognition from the leader is an effective social exchange stimulate in this work environment.

Leader Trust and Social Exchange

While the second finding above relates to the elements that stimulated exchange the researcher was also interested in finding out how these elements contributed to the process of exchange. There was one key theme which emerged from the data which was leader trust. While the literature states that that the reciprocation cycle begins when one party makes the first move the analysis of the interviews suggest that it is more likely to occur when initiated by the leader. For example team leader A noted: '*I felt more respect for him, it's nice to be able to prove myself to him when he had a trust in me that I could do this…even though he's no longer my manager I'd still do him a favour today if he asked*'. Team leader B also stated: '*he saw something in me*'. Manager C also recognised that: '*even though I am no longer their manager some people come to me for advice…the connection is still there…it's nice to be*

appreciated'. Thus, it is the leader who has the authority to present their people with the opportunity to learn new skills and display potential, which in turn can lead to further opportunities. This is of particular significance with the team leader group as it provides them with their first opportunity to advance their careers. A social exchange occurs when the leader is seen as being a valued mentor rather than the traditional command and control manager. Team leader B reflects this in his statement: '*I owe him a lot, there is no way I'd have the job I have today if he didn't give me the opportunity and support to show what I was capable of'*. While both team leaders acknowledged the fact that it was the organisation that provided the finance and resources required to facilitate their learning, they were very strong in asserting that their primary sense of obligation was to their manager.

Employee Engagement

All three of the participants interviewed noted a sense of increased engagement as a result of their involvement in 8SPSP. This emerged in the forms of more improvement suggestions, greater involvement and discretionary contributions. Team leader A noted: '*for example if I was in the middle of something [8SPSP] I wasn't going to leave it till the next day, I'd just work on to get it completed'*. Manager C also highlighted how, '*once you get people involved, they see more problems they want to get rid of…they start putting more suggestions forward'*. This would suggest to the researcher that it is the process of reciprocation initiated by the leader, who is an instrument of the organisation which is driving the engagement.

The findings suggest that 8SPSP is a vehicle which may be conducive to creating a social exchange which is likely to lead to engagement and while a number of elements contribute to this occurrence, it is the leader's influence which is the key component.

The results of the analysis carried out on the pilot interviews gives the researcher confidence that the data collection methodology in place will enable him to answer the research question and objectives posed earlier in this study. He does however recognise that during the interview process he missed a number of opportunities to explore further how the actual social exchange took place. To address this, a number of amendments were made to the interview guideline.

Research Progression

In the final paper of this research study which is due for submission on September 12th 2016 the researcher will have collected and analysed data from twenty critical incident interviews over three phases. There are eight male and twelve female research participants ranging in age from >25 to <60 who have worked with the studied organisation (Lake Region Medical) from between 8 to 18 years (refer to appendix 5). The researcher will collect data until a point of saturation is reached which is why he has allowed time for three rounds of interviews. Consequently some of the research participants may only be interviewed twice and some of the second and third phase interviews may be shorter in duration.

While the learning from writing this paper and in particular conducting and analysing the pilot interviews will without doubt assist the researcher, the challenge involved in interpreting accurately the results in relation to the research question and objectives will be significant. For that reason the researcher has allowed a number of review phases in his data collection and analysis project plan (Table 3).

Table 3 Data collection and analysis project plan paper 4

	2016 Schedule	14 Mar '16	11 Apr '16	09 May '16	06 Jun '16	04 Jul '16	01 Aug '16	29 Aug
1	Complete first round interviews.							
2	Transcribe interviews.							
3	Present raw data to participants for verification.							
4	Analyse transcripts and refinement of research questions.							
5	Complete second round interviews.							
6	Transcribe interviews.							
7	Present raw data to participants for verification.							
8	Analyse transcripts and refinement of research questions.							
9	Begin write up phase two findings based on analysis. Rework findings based on analysis.							
10	Conduct third round interviews with selected participants.							
11	Present raw data to participants for verification.							
12	Analysis transcripts.							
13	Complete findings.							

While the timetable for the data collection and analysis phase of this study (Table 3) is ambitious, credence must be given to the fact that the studied organisation recognises the

129

importance of this study which is why they are facilitating the researcher's work schedule to accommodate this research.

Conclusion

In this paper the researcher has outlined how the research question has evolved as his own understanding of the complexity of the research topic has increased since paper one. The researcher also charts the development of the two interview templates used in the pilot interviews to focus on the connection between the research objectives and critical incident questions, as well as presenting his approach to the pilot study and its findings. A review of the critical incident pilot interviews has resulted in a number of refinements to the interview template and the interviewing process which will assist the researcher in the next phase of this study. The paper concludes with a profile of the interviewees and a detailed project plan and time-line for the data collection and analysis phase of the project.

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Appendix 1   Sample 8 Step Scientific Problem Solving Project (8SPSP)

A3#:

AUTHOR:

TITLE: REDUCTION IN COLLET USAGE

TEAM:

START DATE:

COMP. DATE:

FINAL APPROVAL:

STEP 1: CLARIFY THE PROBLEM

ULTIMATE GOAL
All Toolroom operator work planned with no breakdowns.
This will be with Company Goals to maximise operational availability and control costs.
468 collets is equal to 1 toolroom operators work for 1 week.
Plus the additional cost of extra collets.

Current situation:
468 collets issued for month of July 2010.

Ideal situation:
0 collets issued & Toolroom door sufficient collets already issued on mini run.

GAP
468 COLLETS

CURRENT SITUATION (July 2010) — GAP — IDEAL SITUATION

STEP 2: BREAKDOWN THE PROBLEM

Data taken from BOC charts for calls to Toolroom—Highlighted HV Precoat Proximal cells as biggest problem. Further to this HV PC CELL 2 was proven to be the cell with the highest usage and it was on this cell that we decided to concentrate our improvement efforts.

| MIC | Shift B | | | | Shift A | | | | | Overall |
	Apr	May	Jun	Jul	Total	Apr	May	Jun	Jul	Total	Totals
PC DM Total	30	10	23	6	69	0	21	15	3	39	108
PC Cell Total	82	58	62	154	366	42	48	24	50	164	620
UC DM Total	12	10	0	13	35	11	14	22	44	91	126
UC Cell Total	73	57	85	10	225	40	30	9	17	96	321
LV PC Total	79	55	62	43	239	75	88	26	50	239	477
LV UC Total	89	80	36	30	235	15	21	8	24	68	303
CCA Total	0	0	0	8	8	2	2	13	16	33	41

TOTAL FOR PRECOAT CELLS V REST OF PLANT

H.V. PC. CELL 2 COLLET CHANGE OUT

STEP 3: SET A TARGET

We are going to attempt an 80% reduction in collets issued to HV PC CELL 2 in this instance. We hope to have this project complete by end of 2010.

GAP

NO ISSUED APR-JUL PC CELL 2 — REDUCTION OF 80%

212 — 42

STEP 4: ANALYSE THE ROOT CAUSE

CAUSE OF WELD DEFECTS

Another A3 on the Rosen line indicated that the trouble shooting guide for welding needed to be updated and rolled out to all lines. This will prevent the needless change out of collets in the future. This is covered under

It has been further proposed to check the 10-32UNF hole on the chuck during routine maintenance with a 10-32UNF –2B thread check gauge to ensure the chuck is maintained to standard. Also the material the chuck is manufactured from is to be upgraded and heat treated to minimise wear. Which is the SOP for Preventive maintenance procedure for plasma welder will be updated. This will be covered under a rapid A3.

STEP 5: DEVELOP COUNTERMEASURES

COUNTERMEASURES FOR BURRS

The solution to this problem (which also became a safety issue as a hot collet has the potential to burn) is to introduce a water cooled heat sink block to regulate the temperature of the collet. This will reduce weld defects, eliminates the risk of injury and reduces the need to change the collet as it will maintain a consistent clamping force on the guide wire assembly.

A redesign of the heat sink block to reduce collet seating, dealing with an assembly wide validation testing all part numbers produced in High Volume Assembly, Low Volume Assembly and CCA is required prior to implementing the countermeasure.

This countermeasure will reduce the number of calls to the toolroom from all areas and also reduce rework/scrap in these areas. This testing is covered in Validation No.

STEP 6: IMPLEMENT COUNTERMEASURES

The water cooled block was implemented on the cell on the 13th of January 2012. Initially there was no improvement seen, in fact the month of February saw a rise to 135 extra collets being issued. This increase with a rise in arc marks throughout all precoat lines. Further investigation revealed that this rise was not due to the quality of the collets. The team refocused their efforts on the logic operators were using to change out collets. A tracking sheet was used on the line for 3 days to monitor usage. After this collet usage reduced dramatically. In March only 26 extra collets were issued (80% drop) 16 of which were for router change. Rework on the line also dropped by 1.4% during this time.

STEP 7: MONITOR RESULTS & PROCESSES

EXTRA COLLETS ISSUED TO HV PC CELL 2 FROM 10-JAN-2012 TO 10-MAY-2012

Originally we had set ourselves a target of an 80% reduction in calls to the toolroom. Our data indicated that Burrs accounted for 60% of the re-work on the line, therefore I now believe that we were over ambitious in our target setting. A more realistic goal would have been to try to reduce the instance of burrs on the line by 80% this would have reduced the instance of burrs on the line to 12% of the total rework. The number of extra collets issued to the line is dropping and since the introduction of the coding system rework has dropped from 5.8% to 3.3%.

STEP 8: STANDARDIZE SUCCESSFUL PROCESSES

Further to the countermeasure implemented on this project it is proposed to commence to change the maintenance SOP for the welders and implement standard check procedures on the chuck thread as part of the P.M. procedure. This is covered under

WEEKLY AVERAGE REWORK HV PC CELL 2

Appendix 2   Critical Incident Technique Checklist

Phase 1: Problem definition
    Determine what the research question is
    Determine if CIT is an appropriate method for understanding this phenomenon
Phase 2: Study design
    Determine what a critical incident will be defined as
    Determine the criteria for determining what is not a critical incident
    Determine the unit of analysis
    Develop data collection instrument (clear instructions, appropriate story-triggering questions)
    Determine appropriate sample (appropriate context(s), appropriate respondents)
Phase 3: Data collection
    Train data collectors (if applicable)
    Data collectors collect data
    Identify usable critical incidents
    Identify/develop criteria for incident inclusion (or exclusion)
Phase 4: Data analysis and interpretation
    Content analysis of critical incidents
    Read, reread incidents
    Identify recurring themes
    Develop classification scheme
    Create descriptions of categories (incidents, behaviours, or other units of analysis)
    Sort incidents using classification scheme
    Assess intracoder reliability
    Have additional judges/coders sort incidents
    Assess intercoder reliability
    Test classification scheme on a holdout (validation) sample
Phase 5: Results report
    (1) Study focus/research question
        Explicit identification of focus of study
        Description of the research question
        Precise definition of what a critical incident is in the given context
        Discussion of why CIT is an appropriate method for understanding this phenomenon
    (2) Data collection procedures
        Data collection method
        Description of data collectors (training, background, number of collectors)
        Data instrument (instrument instructions, interview questions)
    (3) Respondent (sample) characteristics
        Description of sample characteristics
        Sample size (number of respondents)
        Response rate
        Compelling rationale for the selection of respondents
        Respondent characteristics (gender, age, ethnicity, education, income, other relevant information)
        Description of multiple samples (if applicable)
        Discussion of number of incidents requested from each respondent
    (4) Data characteristics
        Type of incidents requested from respondents
        Incident valence
        Description of context(s) and/or number of contexts
        Number of incidents collected
    (5) Data quality
        Report on number of (usable) incidents
        Discuss criteria for incident inclusion (or exclusion)
    (6) Data analysis procedure/classification of incidents
        Operational definitions of coding
        Identification of the unit of analysis
        Category development discussion
        Classification scheme description (major categories, subcategories)
        Discussion of judges/coders (training, independence, number of judges used)
        Reliability (intrajudge reliability statistics, interjudge reliability statistics)
        Content validity of classification system
        Discussion of results or applying classification system to holdout (confirmation) sample
    (7) Results
        Classification scheme – description and discussion of major categories
        Classification scheme – description and discussion of subcategories (if applicable)
        Connection to existing literature/theory
        Suggestions for future research

Gremler (2004)

Appendix 3   Team Leader Pilot Interview Questions

	Pilot Interview Team Leader Questions	Rationale	Literature	Research Objective
Section 1: Establishment of the presence of Social Exchange, how the Continuous Improvement process led to Social Exchange and how did this take place.				
01	Can you tell me about your first involvement in an 8 step problem solving project (8SPSP) and whether you put yourself forward or were you invited to participate.	In most cases it is the leader who encourages his subordinate to become involved and sets in motion the first exchange. To determine if 'rules' pertaining to the process of social exchange were laid down at the start or did a sense of obligation just develop naturally in line with social exchange theory. Was the employee pleased, indifferent or disappointed to be chosen? Trying to establish whether this sense of being selected was an early stimulant of social exchange? Did it stimulate a sense of	One of the most important social exchange relationships employees have is with their leader (Coyle-Shapiro and Conway, 2005; Coyle-Shapiro and Shore, 2007; Purcell, 2014; Settoon *et al.*, 1996). When a leader provides benefits above the normal requirements to the employee, reciprocity comes in to play (Wayne, *et al.*, 1997). Morgan and Hunt (1994) maintain that social exchange is governed to a large degree on social obligations rather than defined rules. Socioemotional benefits such as pride at being selected from among peers is a factor in social exchange (Shore *et al.*, 2009). Recognition builds self-esteem and creates a social exchange (Lynch *et al.*, 1999). Social exchange theory explains how when one party does the other a	1, 2, 3

	obligation and a desire to reciprocate?		favour, it creates a sense of obligation on the receiver to reciprocate (Gruman and Saks, 2011; Wayne *et al.*, 1997). The reciprocation cycle begins when one party makes a first move (Cropanzano and Mitchell, 2005).	
02	What training and resources were provided to support the project?	Did the training stimulate social exchange. Did the provision of resources such as leader support, time to work on the project, new tools and equipment stimulate social exchange?	Training has been linked to social exchange as a discretionary reward by the leader or organisation (Witt and Broach, 1993). Giving employees the opportunity to develop themselves increases their engagement with the organisation (Saks and Gruman, 2014). Exchange relationships require repayment within a set time period (Miles and Clark, 1982 Tangible and intangible resources can stimulate social exchange (Cropanzano and Mitchell, 2005; Foa, 1980; Shore *et al.*, 2009).	1, 2, 3
03	Was there any rewards (financial or otherwise) provided on completion of the project.	Did the provision of rewards stimulate social exchange and if so how?	Benefits exchanged in social exchange relationships can be either economic or socio-economic (Cropanzano and Mitchell, 2005; Maslach *et al.*, 2001; Mitchell *et al.,* 2012). The prospects of rewards signals that	2, 3

			the organisation values its employees which can stimulate a social exchange (Rhoades and Eisenberger, 2002).	
04	Did the leader keep in touch on a regular basis to inquire as to how the project was progressing?	To understand the level of support and encouragement the leader was providing and whether their involvement stimulated further exchange.	Leaders who routinely deliver feedback and recognition are seen by their followers to be investing in the social exchange relationship (Dulebohn *et al.*, 2012).	1, 2, 3
05	Do you think that from a work perspective that you and your leader shared similar beliefs and attitudes? Did this influence how you interacted with one another?	To see if the likeability factor is present and to establish if the leader is transformational.	Social exchange relationships are no different than any other interpersonal relationships in that likeability (Wayne *et al.*, 1997) plays a significant role. Byrne (2014) refers to this as consensual validation. Consensual validation explains how when you have a group of people who share similar beliefs and attitudes, [in this case leaders and followers] it removes the need to validate every decision or opinion and a social exchange develops (Deluga, 1998; Liden, *et al.*, 1993; Sparrowe and Liden, 1997). By constructing a vision and uniting their team towards it, transformational leaders can create a social exchange (Dulebohn *et al.*, 2012).	1, 2, 3

06	Has participation in 8SPSP changed your relationship with your leader?	To see if the employee felt a sense of obligation towards the leader of the process. To determine if a social exchange has taken place.	Employees become obligated to their leader when a social exchange exists (Settoon, *et al.*, 1996). Social exchange relationships exist over long periods of time and involve the exchange of both tangible and intangible resources (Emerson, 1981). Social exchange is based on the fundamental principle that any exchange in a relationship has to be mutual (Blau, 1964; Eisenberger *et al.,* 1997; Goulder, 1960; Homans, 1958; Rousseau, D.M., 1989).	1, 2, 3
07	What do you think is the most important element in a manager / employee relationship?	To see if a social exchange has taken place and if trust is an element.	Trust is the foundation for social exchange to develop (Eisenberger, et al., 2010; Konovsky and Pugh, 1994).	1, 2
08	Did you regard the participation in 8SPSP as being important to your own personal development?	To identify if personal development lead to social exchange.	According to Wayne *et al.*, (1997) because granting training and development opportunities are seen as a discretionary act on behalf of the organisation it stimulates a sense of reciprocation within the employee.	1,2
09	Has your involvement in 8SPSP resulted in you having more access to leaders at a higher level in the organisation?	To see if a social exchange has taken place.	In a high social exchange relationship the leader will often introduce his follower to influential people within the wider organisation (Setton *et al.*, 1996; Sparrowe and Liden, 1997).	2

10	Has involvement in 8SPSP increased your understanding of your role within the organisation and how you contribute to its goals?	To determine if the employee felt that they had made a contribution by applying the training and whether this increased reciprocation.	When organisations develop and empower employees they become more fulfilled and feel valued which fosters reciprocation (Levinson, 1965; Nohria *et al.*, 2008). Applying skills learnt can increase the sense of reciprocation (Lynch, *et al.*, 1999; Wayne, *et al.*, 1997). Reciprocation develops as one makes use of new skills to the benefit of the organisation (Levinson, 2013).	1, 2, 3
Section 2: Identification of employee's perceived impact of social exchange in relation to engagement with the organisation.				
11	Do you think that the application of 8SPSP has had an impact on your own contribution or performance?	To find out if the employee perceives that he/she has become more engaged.	People are more motivated and engaged when they have a role in developing their work (Nohria, *et al.*, 2008).	4
12	Did you get feedback as you were working on the problem?	To see if positive feedback was delivered.	Positive feedback on employees contributions strengthens the social exchange (Lynch *et al.*, 1999) Positive feedback on employees contributions leads to increased engagement (Saks and Gruman, 2014; Xanthopoulou *et al.*, 2009b).	1, 4

145

13	What have you got out of working on the 8SPSP?	To explore if once employees become involved in 8SPSP it stimulated engagement.	According to Saks (2006) employees who perform meaningful work are more likely to become engaged.	4
14	Did you ever work on an 8SPSP in your own personal time and if so why?	To determine if the employee is contributing discretionary effort which is a form of employee engagement?	Engaged employees apply a lot of energy and vigour Bakke *et al.*, 2008. When employees are engaged they become physically and emotionally involved in their work (Kahn, 1990; 1992). Engaged employees bring increased energy to their work (Byrne, 2014)	4
15	Has your experience in 8SPSP changed how you go about your work on a daily basis?	To establish if the employee has become engaged.	Engaged employees are more excited about their work and display greater initiative (Konrad, 2006; MacLeod and Clark, 2009; Nohria *et al.*, 2008).	4

Appendix 4   Manager Pilot Interview Questions

	Pilot Interviews Manager Questions	Rationale	Literature	Research Objective
Section 1: Establishment of the presence of Social Exchange, how the Continuous Improvement process led to Social Exchange and how did this take place.				
01	Can you tell me about your first involvement in an 8 step problem solving project (8SPSP) and what reasoning did you use when deciding who to put forward for involvement?	Was the employee pleased, indifferent or disappointed to be chosen? Trying to establish whether this sense of being selected was an early stimulant of social exchange? To see if the leader used it as an opportunity to build their confidence. Did it stimulate a sense of obligation and a desire to reciprocate?	One of the most important social exchange relationships employees have is with their immediate leader (Coyle-Shapiro and Conway, 2005; Coyle-Shapiro and Shore, 2007; Purcell, 2014; Settoon *et al.*, 1996; Wayne *et al.*, 1997). When a leader provides benefits above the normal requirements to the employee, reciprocity comes in to play (Wayne, *et al.*, 1997). Socioemotional benefits such as pride at being selected from among peers is a factor in social exchange (Shore *et al.*, 2009). Recognition builds employees self-esteem and creates a social exchange (Lynch *et al.*, 1999). Social exchange theory explains how when one party does the other a favour, it creates a sense of obligation on the receiver to	1, 2, 3

			reciprocate (Gruman and Saks, 2011; Saks, 2006; Wayne *et al.*, 1997). The reciprocation cycle begins when one party makes a first move (Cropanzano and Mitchell, 2005).	
02	What training and resources were provided to support the project?	Did the provision of resources such as training, leader support, time to work on the project, new tools and equipment stimulate social exchange?	Because it can be seen as a discretionary reward within the gift of the leader or organisation training has been linked to social exchange (Witt and Broach, 1993). Giving employees the opportunity to develop themselves increases their engagement with the organisation (Saks and Gruman, 2014). Exchange relationships require repayment within a set time period (Miles and Clark, 1982). Tangible and intangible resources can stimulate social exchange (Shore *et al.*, 2009).	1, 2, 3
03	Was there any rewards (financial or otherwise) provided on completion of the project.	Did the provision of rewards stimulate social exchange and if so how?	Benefits exchanged in social exchange relationships can be either economic or socio-economic (Cropanzano and Mitchell, 2005; Maslach, *et al.*, 2001; Mitchell et al., 2012). The prospects of rewards signals that the organisation values its employees which can stimulate a social exchange (Rhoades and Eisenberger, 2002).	2, 3

04	Did you keep in touch on a regular basis to inquire as to how the project was progressing?	To understand the level of support and encouragement the leader was providing and whether their involvement stimulated further exchange.	Leaders who routinely deliver feedback and recognition are seen by their followers to be investing in the social exchange relationship (Dulebohn *et al.*, 2012)	1, 2, 3
05	Do you think that from a work perspective that you and the people you choose to work on 8SPSP share similar beliefs and attitudes? How did this influence your interactions?	To see if the likeability factor is present and to establish if the leader is transformational.	Social exchange relationships are no different than any other interpersonal relationships in that likeability (Wayne *et al.*, 1997) plays a significant role. Byrne (2014) refers to this as consensual validation. Consensual validation explains how when you have a group of people who share similar beliefs and attitudes, [in this case leaders and followers] it removes the need to validate every decision or opinion and a social exchange develops (Deluga, 1998; Liden, *et al.*, 1993). By constructing a vision and uniting their team towards it, transformational leaders can create a social exchange. (Dulebohn, *et al.*, 2012).	1, 2,3
06	Has employees' participation in 8SPSP changed your relationship	To see if a social exchange has taken	Employees become obligated to their leader when a social exchange exists (Settoon, *et al.*,	1,2,3

	with them?	place.	1996). Social exchange relationships exist over long periods of time and involve the exchange of both tangible and intangible resources (Emerson, 1981). Social exchange is based on the fundamental principle that any exchange in a relationship has to be mutual (Blau, 1964; Eisenberger *et al.,* 1997; Goulder, 1960; Homans, 1958; Rousseau, D.M., 1989).	
07	What do you think is the most important element in a manager / employee relationship?	To see if a sense of trust exists between the leader and his people.	Trust is the foundation for social exchange to develop (Eisenberger *et al.,* 2010; Konovsky and Pugh, 1994).	1, 2
08	Did you regard the participation in 8SPSP as being important to your employees' personal development?	To identify if personal development lead to social exchange.	People are more motivated and engaged when they have a role in developing their work (Nohria *et al.*, 2008). According to Wayne *et al.,* (1997) because granting training and development opportunities are seen as a discretionary act on behalf of the organisation it stimulates a sense of reciprocation within the employee.	2, 3, 4

09	Has involvement in 8SPSP given the participants access to leaders at a higher level in the organisation?	To understand if as a result of the 8SPSP experience a social exchange has taken place.	In a high social exchange relationship the leader will often introduce his follower to influential people within the wider organisation (Setton *et al.*, 1996; Sparrow and Liden, 1997). When organisations develop and empower employees they become more fulfilled and feel valued which fosters reciprocation (Levinson, 1965; Nohria *et al.*, 2008).	3, 4
10	With regards to the subordinates involvement in the actually 8SPSP process, do you feel that they had a part to play in fixing the problem?	To determine if the employee felt that they had made a contribution by applying the training and whether this influenced reciprocation.	When organisations develop and empower employees they become more fulfilled and feel valued which fosters reciprocation (Levinson, 1965; Nohria *et al.*, 2008). Applying skills learnt can increase the sense of reciprocation (Lynch *et al.*, 1999; Wayne *et al.*, 1997). Reciprocation develops as one makes use of new skills to the benefit of the organisation (Levinson, 2013).	3
Section 2: Identification of employee's perceived impact of social exchange in relation to engagement with the organisation.				
11	Do you think that the application of 8SPSP impacted on your subordinates contribution or performance?	To find out if the employee perceives that he/she has become more engaged.	People are more motivated and engaged when they have a role in developing their work (Nohria, *et al.*, 2008).	4

12	Did you provide feedback as they were working on the problem?	To see if positive feedback was delivered.	Positive feedback on employees contributions strengthens the social exchange (Lynch *et al.*, 1999). Positive feedback on employees contributions leads to increased engagement (Bakker *et al.*, 2008; Saks and Gruman, 2014; Xanthopoulou *et al.*, 2009b).	1, 4
13	What do you think that they have got out of working on the 8SPSP?	To explore if once employees become involved in 8SPSP it stimulated engagement.	According to Saks (2006) employees who perform meaningful work are more likely to become engaged.	4
14	Did they ever work on an 8SPSP in their own personal time and if so why?	To determine if the employee is contributing discretionary effort which is a form of employee engagement?	Engaged employees apply a lot of energy and vigour (Bakke *et al.*, 2008). When employees are engaged they become physically and emotionally involved in their work (Kahn, 1990; 1992). Engaged employees bring increased energy to their work (Byrne, 2014)	4

| 15 | Do you think that the experience of working on an 8SPSP has changed how they go about their work on a daily basis? | To establish the employee has become engaged as a result of involvement in 8SPSP | Engaged employees are more excited about their work and display greater initiative (Konrad, 2006; MacLeod and Clark, 2009; Nohria *et al.*, 2008). | 4 |

Appendix 5   Research Participants

Code	Job Title	Length of service	Sex	Age
TLA	Production Team Leader	10	FM	35-40
TLB	Warehouse Team Leader	9	FM	30-35
TLC	Production Team Leader	15	FM	30-35
TLD	Packaging Team Leader	14	FM	30-35
TLE	Production Team Leader	15	FM	40-45
TLH	Production Team Leader	13	FM	25-30
TLI	Production Team Leader	18	FM	50-55
TLJ	Production Team Leader	10	M	35-40
TLK	Production Team Leader	11	M	25-30
TLL	Production Team Leader	9	M	30-35
TLM	Packaging Team Leader	10	FM	55-60
TLN	Production Team Leader	12	FM	30-35
TLO	Production Team Leader	10	M	30-35
TLP	Packaging Team Leader	5	FM	30-35
TLS	Production Team Leader	13	FM	25-30
MGRA	Operations Manager	13	M	45-50
MGRB	Operations Manager	10	M	45-50
MGRC	Support Manager	8	FM	50-55
MGRD	Operations Manager	2	M	40-45
MGRF	Operations Manager	16	FM	35-40

Preface to Paper 4

This is the fourth paper submitted as part of the four-paper series. In paper four the researcher will outline the data analysis strategy he adopted and present the findings which emerged through interaction with fifteen team leaders (ID codes TLA to TLS) and five managers (ID codes MGRA to MGRF) . This evolution in the researcher's understanding since paper three is best illustrated through an examination of how the research objectives have evolved.

In Paper three the researcher set out four separate objectives;

1. To consider the extent of social exchange within the context of the continuous improvement activity.
2. To establish the elements within the continuous improvement activity that contributed to this sense of exchange.
3. To identify how these criteria contributed to the process of exchange that took place within the continuous improvement activity.
4. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

A number of changes were made to these objectives over the interim period. While the changes in the language used to frame the research objectives may appear subtle, they are never-the-less crucial. The change to objective one goes to the heart of this study which is not concerned with the quantity of social exchange involved, but to discover if it took place at all within the context of the continuous improvement activity. The other change is that objectives two and three are now combined as they are intrinsically interconnected.

Paper four's revised research objectives are as follows:

1. To consider the existence of social exchange within the context of the continuous improvement activity;
2. To establish the elements within the continuous improvement activity that contributed to a sense of exchange and to identify how these elements contributed to the emergence of the social exchange;
3. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

156

The data analysis process has already been captured in paper four but it is worth revisiting to highlight the development in the researcher's understanding of this method and in particular the process of working with the data. As the researcher works in industry and is pragmatic in nature, it initially appeared that the most efficient way of conducting the analysis was to try and identity the themes and sub themes and then retrospectively fit in relevant text extracts. However it quickly became apparent that the researcher was trying to "put the cart before the horse" and that the analysis process began with the data. For this process to be robust the data needed to be "worked up" in order to create meaning. The data needed to be coded and analysed, recoded and analysed through a number of iterations. The codes and data were then explored to see if there were potential themes within the text and from these themes further themes and sub themes emerged. Again this was an iterative process and took many months of analysis and reflection. Thematic maps were developed concurrently and the researcher learnt the importance of constantly revisiting his conceptual framework (refer to Figure 1) and his research question and objectives in order to remain focused and to accurately develop the thematic maps.
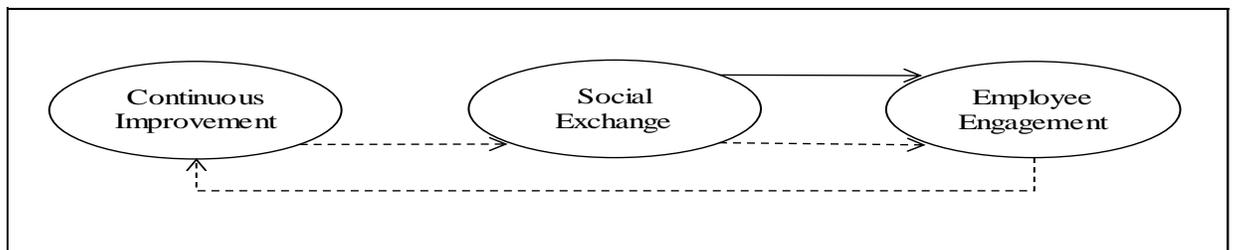
Figure 1: Conceptual framework

This process also resulted in the researcher moving away from trying to develop one thematic map that captured all the elements and interconnections between the themes. Instead the researcher choose to create a series of three separate maps to illustrate;

a) The themes and sub-themes relating to the presence of social exchange.
b) The themes and sub-themes relating to the enablers of continuous improvement and the connections to social exchange.

c) The themes and sub-themes relating to perceptions of employee engagement and the social exchange process.

The construction of these maps enabled the researcher to specifically focus on the linkages between the various themes and sub themes and to ensure that the relationships were portrayed accurately.

By taking this approach the researcher was then able to fuse these maps together to create one overall thematic map linked to the three research objectives which encapsulated the research findings, for presentation in paper four.

A difficulty faced by the researcher in the early drafts of paper four was finding an effective way to accurately present the nuances of social exchange which were present in the text extracts used. After much examination this was resolved by highlighting the particular words within the text extracts which signified social exchange and also with the inclusion of a new column on the extract table in which the researcher explained how the social exchange emerged from the continuous improvement process.

Paper four was submitted for review on September 12th 2016. Following the doctoral colloquium the student received some minor suggestions aimed at improving the flow and academic language used to write the paper, which have been incorporated into the final version presented here.

Paper 4: Findings and Discussion

Abstract

The research question for this study is, '*Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?*' The study took place in Lake Region Medical, an Integer Company in New Ross, Co. Wexford where the researcher is employed as Continuous Improvement Director. First round interviews with twenty members of the company's team leader and manager groups were carried out using an interview template underpinned by the critical incident technique in March 2016. The critical incidents selected for the critical incident technique interviews were several 8 step problem solving projects (8SPSP) which were a key component of the continuous improvement program in the company.

Data analysis was carried out with the aid of NVivo 10 qualitative analysis software. A second round of interviews tailored specifically to expand on some of the main themes identified in the analysis of the first round interviews took place in July 2016, while a third round of short clarification interviews were conducted in August 2016 with four of the participants.

A key finding is that continuous improvement events such as the 8SPSP may create an environment conducive to social exchange. There is an inter-play between the continuous improvement enablers and social exchange dynamics which may be linked to a perceived increase in employee engagement.

Keywords: Continuous Improvement, Engagement, Reciprocation, Social Exchange.

Introduction

The paper will begin with the researcher introducing his research question and refined research objectives before providing a brief outline of the methodological approach employed and the use of thematic analysis in a qualitative inquiry. In the second part of this paper the researcher will explain the data collection and analysis process he employed before going on to describe the findings. The main themes and subthemes which have emerged from the data analysis will be presented. The research sought to explore whether a continuous improvement initiative can create a process of social exchange which is conducive to stimulating employee engagement. The results of the data analysis would suggest that when organisations engage their employees in continuous improvement activity, in this study the eight step problem solving process (8SPSP[4]); it provides an environment which creates a process of reciprocity through social exchange between the employee and their manager which in turn stimulates employee engagement (see conceptual framework in Figure 1).
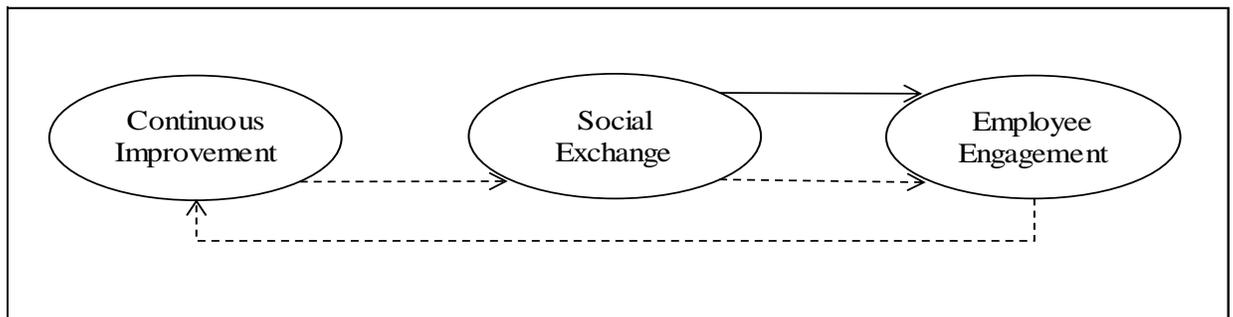
Figure 1: Conceptual framework

The research aim for the current study is to explore whether a continuous improvement initative could potentially create a process of social exchange which is conducive to stimulating employee engagement, while the research question asks:

> *Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?*

Based on the above, the research objectives are as follows:

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[4] A scientific problem solving methodology used in continuous improvement

1. To consider the existence of social exchange within the context of the continuous improvement activity.

2. To establish the elements within the continuous improvement activity that contributed to a sense of exchange and to identify how these elements contributed to the emergence of the social exchange.

3. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

Because this is an exploratory study the researcher has adopted an interpretive research approach using case study methodology. Exploratory case studies enable researchers to look at the phenomena occurring from a new perspective, and they are particularly effective at identifying new context (Robson, 2002). Adopting a qualitative approach within the context of this case study allowed the researcher to investigate and interpret the phenomena in its natural setting, which in this case is Lake Region Medical. A detailed account of the underlying philosophy, research process and methodology of this research has already been presented in paper 2, while details of the pilot interviews which resulted in changes to both the researcher's interviewing technique and set of interview questions are detailed in paper 3.

Data Collection Process

The first phase of the data collection process involved the researcher developing interview questions that were based on the relevant literature and which would answer the research question and objectives posed. A research protocol was created to deal with issues around confidentiality, informed consent and ethical approval. As the researcher is embedded in a senior management position within the case company, requests for volunteers were coordinated through a junior member of the human resources department (refer to paper 2). A pilot study was carried out with employees who were not involved in the research which resulted in several modifications to the interview content and process.

The next stage involved the researcher carrying out twenty in-depth critical incident interviews. The critical incident qualitative interview method used in this study is that

developed by Chell (2012) based on Flanagan's original work (1954). According to Chell (2012) her approach is intended;

> … through the process of a largely unstructured interview to capture the thought processes, the frame of reference and the feelings about an incident or set of incidents, which have meaning for the respondent. In the interview the respondent is required to give an account of what those incidents meant for them, their life situation and their present circumstances, attitudes and orientation.

(Chell,2012:47).

As highlighted above, what constitutes a critical incident therefore is a single or multiple set of events that are meaningful to the interview participant. The objective for the researcher was to gain a high level of understanding as to how involvement in the various continuous improvement initiatives made the team leaders think, feel and behave. Interviews were conducted with 15 members of the company's team leader cohort (ID codes TLA to TLS) and in line with Chell's recommendation that where possible at least one other person who can authenticate the respondents experience be interviewed, the researcher conducted critical incident technique interviews with five members of the management team (ID codes MGRA to MGRF). Eight males and twelve females took part and ranged in age from >25 to <60. Participants had between 8 and 18 years of service.

The first phase interviews, which ranged in length from 40 to 60 minutes in duration were audio taped for a number of reasons. It allowed the interviewer to focus on the interview rather than taking notes; it provided an unfiltered record of the discussions that had taken place; it gave the interviewer a reference source and provided an opportunity to review the data collected; and finally it also enabled transcription by a third party. All the interviews were conducted in a meeting room normally reserved for customers or corporate visitors.

Following the initial analysis of the first phase transcripts a second round of interviews took place. These were primarily focused on establishing at what stage in the continuous improvement process the elements of social exchange such as trust, loyalty, and reciprocation first began to appear (refer to appendix 1). The same protocol for managing the data collection as phase one was used. In the latter stages of the data analysis process four third

phase interviews of <15 minutes duration were carried out with two team leaders and two managers for clarification purposes.

Data Analysis

As the narratives for this research were collected from the respondent's perspective, in their own words, about the incidents which had most meaning for them, the researcher chose to use a qualitative thematic approach to analyse the data as outlined by Creswell (2007). Braun and Clark (2006) describe thematic analysis as a qualitative analytic method for;

> Identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail. However frequently it goes further than this, and interprets various aspects of the research topic.

(Braun and Clark, 2006:79).

The system of thematic analysis adopted by the researcher was broadly based on the six stage model advocated by Attride-Stirling (2001) which can be viewed in appendix 2. The reviewed transcripts were imported into the NVivo10 qualitative analysis software tool. The researcher then conducted a preliminary analysis of the transcripts making notations only when he encountered significant words or phrases. In his second reading the researcher took a more studied approach and when he came across a particularly interesting section he highlighted its potential relevance in the context of the research objectives. A third reading was carried out where further annotations were added and refined and the researcher also listened to the recordings of all twenty interviews. Throughout the entire analysis process the researcher maintained a "theme memo" which he used to capture in real time his changing insights and perspectives as his learning and understanding about the research subject developed. This early analysis was mainly for the purposes of gaining a familiarity with the transcripts.

A set of nodes was then created in NVivo to "topic" code (Richards, 2014) the transcripts. Coding was carried out using the process of abduction (Dubois and Gadde, 2002; 2014; Kovács and Spens, 2005) where a set of codes were generated; from a combination of the

initial analysis of the transcripts and their accompanying annotations; the research question and objectives; relevant literature from research papers 1 to 3 and finally from the analysis of the pilot interviews. Transcripts were then coded and additional annotations were added as well as comments in the themes memo. Any new codes that emerged were added to a list of new codes for the second coding process. To ensure that the data analysis process was robust the researcher recoded one of the transcripts and compared the coding approach between the first and second coding process (Richards, 2014). Based on this review some codes were revised or discarded. The initial set of code definitions was also discussed with the student's supervisor to try to ensure that the codes were valid. The transcripts were then recoded, based on the refined set of codes.

The transcript extracts under each code were then reviewed to ensure fit was optimised. Some extracts existed under more than one code. Extracts were moved where it was deemed that the extract was more fitting under a different code. Extracts were also deleted where it was felt that they did not merit inclusion under the initial code or any other code. The extracts were then reviewed in detail to explore how they knitted together into potential themes and configurations. The process of refinement resulted in the number of codes being reduced from 51 to 23 and the movements of some text segments between codes (refer to appendices 4, 5, and 6 for the initial and final sets of nodes and the list of nodes by interviewee).

In the final stage of the thematic data analysis process codes were organised into potential themes and subthemes based on the review of the extracts and the codes, the linkages between codes, patterns which emerged and differences between codes. The extracts contained under the themes and sub themes were reviewed and themes and sub themes were amended, merged or disregarded based on this analysis. This process was iterative and took a number of reviews, while thematic maps were used to support the various phases of the thematic analysis process. These maps were used to enable the researcher to maintain the essence of the interview which can sometimes be lost in transcription, as well as supporting the presentation of the philosophy in the data analysis process (Daley, 2004). In presenting a clear and auditable trail of how the findings were arrived at, the researcher builds rigour and

robustness into the study which may also serve to guide other researchers as they carry out their analysis.

Findings Overview

Based on the process of thematic analysis carried out on the data collected, eleven main themes and nine sub themes emerged. The relationship between these themes and their link to the research objectives are displayed in Figure 2. A table containing the full list of themes and sub themes can be found in appendix 3.
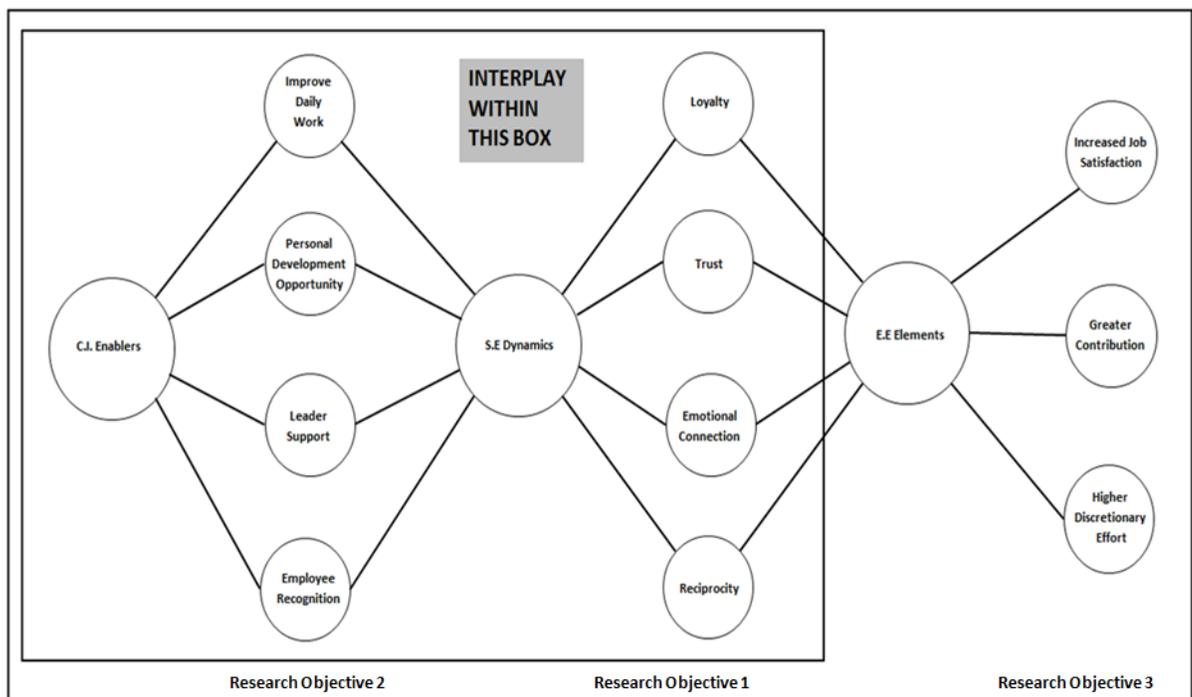
Figure 2: Thematic map illustrating the association between continuous improvement, social exchange and employee engagement

The analysis identified four key themes within the continuous improvement process which have the capability to be a catalyst for social exchange. The first of these was the initiation of the social exchange process by the manager recognising the employee for selection in the first place. The significant role played by the leaders in supporting the individual through the process was another main theme as it led to generating feelings of trust, loyalty and a sense of obligation. The third theme was the opportunity for personal development that

involvement in continuous improvement provided and the sense of reciprocation that evolved as a result, while the final theme related to improving the employee's daily work with social exchange developing as decisions and responsibilities were delegated to the employee.

Three main themes emerged which suggested a link to employee engagement as a result of the interaction between the continuous improvement elements and the social exchange dynamics. The first theme was the perceived increase in job satisfaction which was reflected in participants' sense of pride and achievement in their own personal development and success at completing the projects. The second theme was a perceived greater contribution to the organisation through the implementation of improvement and cost saving ideas. The final theme was the increased discretionary effort observed by the employees who reported bringing work home, or working additional hours without being mandated to do so.

The Existence of Social Exchange within the Context of a Continuous Improvement Activity

With regard to research objective 1 (to consider the existence of social exchange within the context of the continuous improvement activity), the analysis of the findings suggest that a social exchange was present and stemmed from interactions with the enablers of the continuous improvement activity. A thematic map (see Figure 3) illustrates the key themes associated with social exchange that emerged from the data.
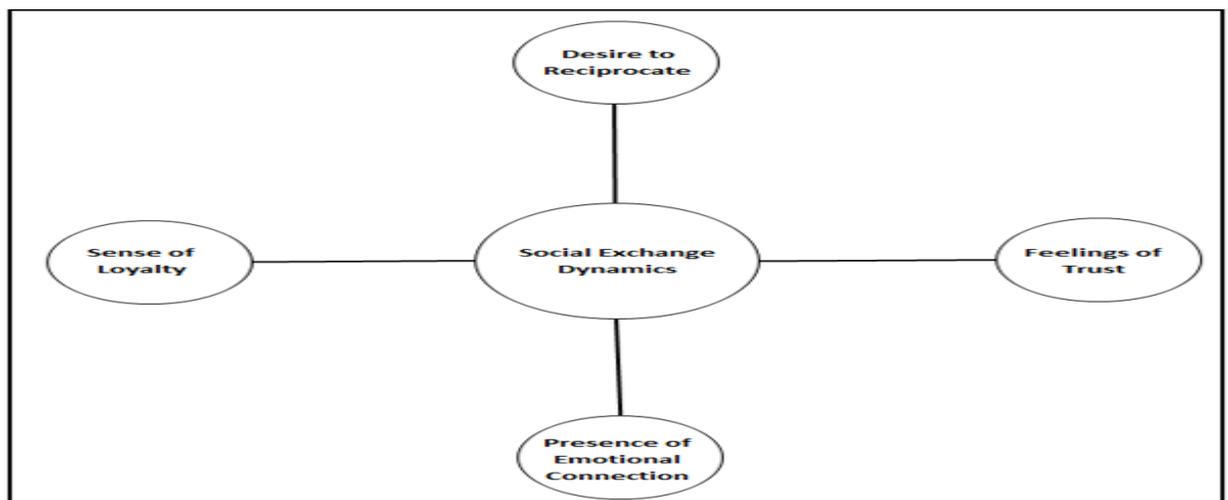
Figure 3: Thematic map illustrating the presence of social exchange

These themes included the existence of a bond or emotional connection, an environment of trust, feelings of mutual loyalty and a desire on the part of the respondent to reciprocate when help or support was received.

The Existence of Feelings of Loyalty

As can be seen in table 1, loyalty surfaced as a theme within the context of the social exchange.

Theme	ID	Text Extract	Narrative Connection to Social Exchange
The Existence of Feelings of Loyalty Between Both Parties.	TLA	[Loyalty] …to me it's because **someone has been very good for me, putting opportunities my way** that I wouldn't have got anywhere else and **I'm very grateful** for that.	Sense of obligation for favours granted creates loyalty.
The Existence of Feelings of Loyalty Between Both Parties.	TLK	I think it goes back to, you get to where you are in the organisation or you get to where you are in your career through the developments that you've had over the years and **the key person you always look out for is the person who has developed you**.	Leaders who develop social exchange through mentoring their people are rewarded with loyalty.
The Existence of Feelings of Loyalty Between Both Parties.	MGRB	In my experience **most people are very fair and if you put opportunities their way, they'll never forget you** for it. In your life there's only going to be a certain number of people. **You do definitely remember people who helped you in your career.**	High levels of trust and loyalty can be built up over time through close personal experiences.

Table 1 Loyalty within the context of the social exchange

168

Loyalty was one of the strongest elements which illustrated the social exchange relationship. As TLE highlighted:

> To be honest I owe MGRD an awful lot. Any development I've had is down to him… it's like he took me under his wing and became my personal mentor. I believe I've paid him back with loyalty and trust and results.

Evident in table 1 and exemplified in the above extract is the gratitude and affection people possess for those who played an important role in their career progression, and the strong sense of exchange that develops between the parties in the social exchange. This is of even greater significance when it occurs at the starting point of their career. As TLL noted, "I'll always be grateful to [MGRD] for getting me involved in continuous improvement", the loyalty that existed here is indicative of the fact that social exchange occurred.

The Establishment of a High Trust Relationship

The findings demonstrated the fundamental effect that trust played in establishing the social exchange (table 2).

Theme	ID	Text Extract	Narrative Connection to Social Exchange
Establishment of a High Trust Relationship	TLE	It develops over time, talking about the significant of difficult decisions, **we'd both always take each other's views on board, so you felt appreciated and believed your opinion mattered. Trust** isn't something that comes with the job title; **it has to be earned through interactions with each other over time.**	Genuine two way communication leads to a building of trust and social exchange.

Establishment of a High Trust Relationship	TLK	**As you get more experience and you're given more responsibility and trusted to take things on**…but it takes time to build it, it can't just happen overnight.	Delegation of work and responsibility demonstrates appreciation, respect and trust which can lead to a social exchange.
Establishment of a High Trust Relationship	MGRB	**The more you talk, the more you inform, the greater the trust.** Sometimes you have to give trust in order to get trust. **You must let them make the decisions, trust them to do the right thing.**	Where communication is strong it can build understanding and trust which facilitates a social exchange.

Table 2 Trust within the context of the social exchange

A common element through the theme of trust was that it takes time to become established. In the words of MGRF:

> …it [Trust] definitely evolved over time from working with the person for a while where you confided private stuff that you knew was never going to be repeated…having lots of honest conversations, being able to say I am having difficulties. You feel that they trust you to do the job that you're doing and when you go to them with a real problem, they know it's a real problem. I can't ever see that trust being broken; we built up such a great working relationship that is totally based on trust and honesty.

The need for time is evident in the layered manner it builds up as honesty, appreciation and mutual respects grows. In a social exchange relationship it is also essential that trust evolves naturally without the need for formal rules. This appeared to evolve from the analysis. This is illustrated by TLC regarding MGRA in the following contribution, "you could tell him you'd be after killing somebody and he wouldn't dob [Inform] you to the cops [police]!".

170

Existence of Reciprocation

The desire to reciprocate as a result of a sense of obligation that existed was expressed by all participants, as evidenced in table 3.

Theme	ID	Text Extract	Narrative Connection to Social Exchange
Existence of Reciprocation	TLE	I suppose it's a sense of loyalty and obligation … **he's shown the loyalty and trust in me and I feel I have to repay that trust.**	As loyalty and trust is built up, the deepening social exchange relationship creates a desire to reciprocate.
Existence of Reciprocation	TLK	…the best example is he took a chance on me and I only twenty five. So, not many guys that age get that opportunity. **I would always see it as repaying him in every way I could. If this guy is trusting you to do the job you're meant to do, by all means you'll do it but that trust is definitely reciprocated in the opposite direction.**	Trust leads to the opportunity to develop professionally. Desire to reciprocate is an outcome.
Existence of Reciprocation	MGRD	Coming from a personal point of view, you would want to give something back or, or show that '**well, they had faith in me, so I'll do my best to give, give back whatever has been expected of me.**	Trust leads to an opportunity to develop professionally. Desire to reciprocate is an outcome.

Table 3 Reciprocation within the context of the social exchange

All the team leaders referred to the fact that selection for participation had opened a door to future opportunities and each expressed gratitude to the leader for making that possible. TLL's description below illustrated the sense of obligation to reciprocate, as he explained:

> I'm 100% sure I wouldn't be where I am without MGRB's support. He was the guy that gave me the opportunity to get my foot on the first step of the ladder and I'll never forget that. It doesn't matter if I have ten things on my "to do" list, MGRB's will move up the list pretty fast.

That view that the social exchange relationship is essentially a joint enterprise was touched on by MGRB:

> I'd say it [continuous improvement involvement] brought us closer. It's very much a mutual relationship in that, like, we both need one another. They're extremely loyal to me. I guess they'd see me as the person who would have brought them along and who will always look out for them in the future.

This sense of obligation continued even when the leader no longer had authority over the team leader. As evidenced by TLD, "he's moved area so I don't see him as much but definitely, yeah, I'd still respect him. He could ask me to go walk the roof, along the roof, and I'd do it for him". All the managers spoke of their gratitude to their subordinates for grasping the opportunity and outlined their intention to continue to act as an advocate. This was voiced by MGRC, "it's about building up that personal relationship and, you know, taking an interest in what they're doing and giving them the opportunities to develop even further".

The Presence of an Emotional Connection between the Leader and Employee

From the data it was evident that a bond or emotional connection was generated between the employees and the leader. Table 4 shows how the strength of the social exchange relationship has resulted in the creation of a bond that goes far beyond the normal manager-employee connection.

Theme	ID	Text Extract	Narrative Connection to Social Exchange
Presence of an Emotional Connection	MGRA	…you're not just their manager to make sure that they are doing their work. **It's about building up that personal relationship and taking an interest in what they're doing**. If you're respecting people, you're building up that relationship, they're going to trust you and **see the side of you that's not just a manager who looks after my timekeeping. So you're building that relationship**, building that trust that they can come to you with a problem.	As social exchange is built up, an emotional connection is created that goes beyond the normal manager, employee connection.
Presence of an Emotional Connection	MGRC	When you've been on the same journey, **when your back was to the wall and someone comes to your aid – you never forget it.** You like to see something you were involved in building up to being such a great success and it's only when you stand back and say Jesus I was a part of that!	As social exchange is built up, an emotional connection is created that goes beyond the normal manager, employee connection.

Table 4 Emotional connection within the context of the social exchange

The strength of this connection appears to be reflective of the personal transformation which both parties contributed to. It does appear however that it is the junior partner who had the most to gain from the burgeoning social exchange relationship. As described by TLL, "the involvement has given me a career, before I was a normal person; it gave me the confidence to realise my full potential". From the managers' perspective, providing support gives them a unique opportunity not only to develop their peoples' skills and talents but also to lay the foundations for a positive working relationship. When describing his role in creating this

emotional connection, manager MGRA was very candid, "you get closer to them, you know how they work, know what buttons to press". TLE spoke emotionally about his own experience:

> I think you'll always have a special connection to the person who [Initially] had a belief in you…saw your potential and encouraged you in your career. I often wonder if MRGB left in the morning would I have the same connection with Lake Region, and in my deep reflections I think probably not.

The approach adopted by MGRF demonstrates how from the outset he was initiating a social exchange:

> The way I see it, it's not about getting the most out of people – it's about getting the best out of them. For me to do my job properly I need to know the people who work for me. If I keep a distance or a barrier between them then I'm not going to really get to know them. Everybody has difficulties in their life at some stage or other, when things are not going well. When you're that little bit closer to them, you know what's happening in their lives. You get to know when they can take some pressure and when they can't and critically when they need your support.

The findings suggest that the social exchage was evident within the continuous improvement activity. While all participants provided examples of where trust, loyalty, and reciprocation were present, there were some specific incidences where a particularly strong social exchange was in place. The researcher has described these relationships as an emotional connection between the two parties. In the next section the researcher will outline the findings in relation to objective 2 which sought to identify elements within the continuous improvement activity that stimulated a sense of exchange and also explored how these elements contributed to a social exchange.

Continuous Improvement Enablers of Social Exchange

Four main themes and ten supporting themes which can potentially lead to the emergence of a social exchange relationship were identified in the data analysis. The thematic map (Figure 4) provides an illustration of how the elements of a continuous improvement activity can act as enablers of a social exchange.

174
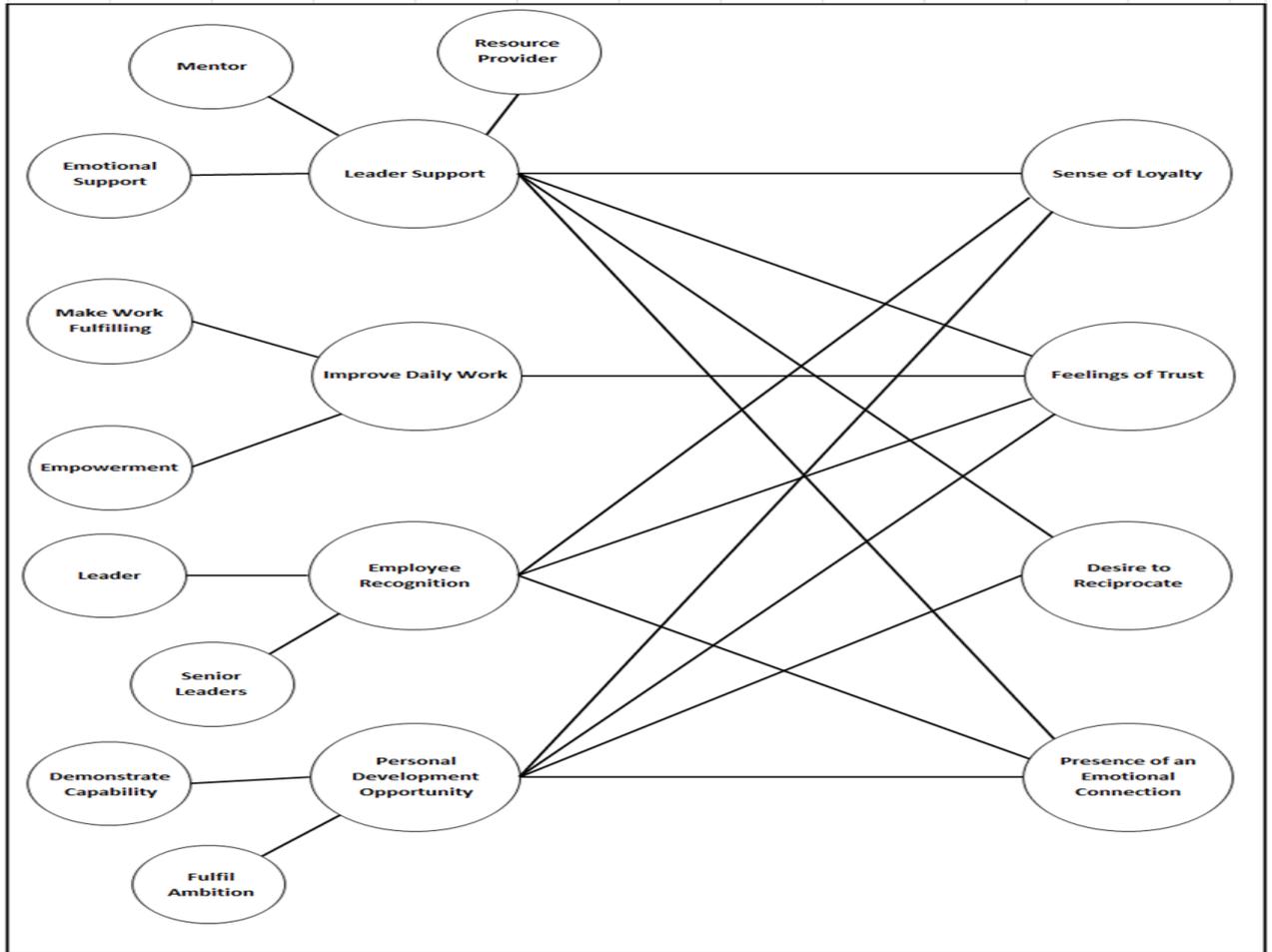
Figure 4: Thematic map illustrating continuous improvement enablers and connection to social exchange

The researcher will now proceed to deal with each of these elements separately and describe using transcript extracts how they support the social exchange process.

Leader Support

Before discussing the various ways in which the leader can provide support it is important to have a closer look at some significant challenges which involvement in the continuous improvement activity may bring for the employee. Typically in a continuous improvement event, early feelings of delight, excitement and anticipation at being selected from among their peers appeared to be very quickly replaced with feelings of apprehension, concern and doubt. As MGRC explained:

> Initially after being asked to become involved, they're so happy that they get the chance to do it and they're on cloud nine, then they start to doubt themselves. Maybe it's outside their comfort zone…they worry will their lack of education be exposed, will they blown this opportunity…I'm honestly amazed at how much they doubt themselves. It's like everyone else can see just how capable they are, but they just don't see it themselves.

An interesting finding from the analysis was that despite the fact that their first involvement in continuous improvement was over five years earlier all 15 team leaders could still remember how vulnerable they felt at that time. As recounted by TLH "well, at the start, because I didn't know anything about it [continuous improvement], I was a bit scared, wasn't sure, would I, would I be up to it". TLO felt even more concerned, "I was terrified at first because it was the first time I'd ever done an 8SPSP …you're trying to impress and prove you can actually do it".

The analysis identified three specific forms of leader support. They are; the leader's role as mentor, the leader's role in ensuring the provision of resources (resource provider) and finally the provision of emotional support.

Leader's Role as Mentor

The leader's role as mentor as both a support mechanism in the continuous improvement initiative and as an enabler of the social exchange process is captured in table 5.

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Leader Support	Leaders' Role as Mentor	TLI	Honestly it felt like there was [During the continuous improvement event] a **safety net** which was very good. Potentially, yeah, we could	The fact that the individual views the leader as being someone she can rely on demonstrates that the

			fall…but if we did **there was somebody there** with experience, with a bit more, you know, nous [Better judgement].	social exchange is in place.
Leader Support	Leaders' Role as Mentor	TLK	**He would always keep in contact, every day,** 'how's it [continuous improvement project] going, what are the roadblocks, **how can I help'.**	By proving support, showing interest and encouragement the leader fosters the social exchange relationship.

Table 5 Leader's role as mentor within the context of the social exchange

The informal nature of the mentoring which was critical in establishing the social exchange was touched on by TLN who also captures the closeness that had developed with her manager in this environment:

> …rather it was watching and listening to what he would say about a situation. If you were on the outside you could look back and say these were coaching sessions, but you know what it was, just two people sitting down at the same time, having a cup of tea and going through scenarios about how you could improve yourself.

It is important when considering the leader's mentoring role to understand that previous to the continuous improvement activity involvement, the team leaders would have had limited exposure to the managers. This is purely down to the hierarchical nature of organisations and the requirement to operate through formal channels. The following extract from TLC illustrates the foundations of the social exchange being laid in the growing respect and appreciation for the other person, "…I remember [Leader providing direction on the continuous improvement project] standing there and this flipchart and I remember, kind of, nearly being in awe of her because she just knew so much".

Noticeable also in the extracts provided in table 5 is the developing social exchange environment where responsibility is carefully measured out so as not to overwhelm the

recipient and a constant stream of positive reinforcement is provided. As well as building the confidence of the team leaders the support provided by the managers is also nurturing a working relationship built on trust and loyalty.

Leader's Role as Resource Provider

The analysis showed support from all parties that the leader's commitment and ability to having all the necessary resources in place was essential to support a successful result (table 6).

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Leader Support	Resource Provider	MGRC	It's important that the team are given everything they need to complete the project. **That shows confidence in them** and the project and, you know, without that I think people will get frustrated and lose interest, in continuing.	The leader in ensuring the necessary resources are in place demonstrates faith in the individual to the get the project completed which builds their self-esteem and confidence leading to social exchange.
Leader Support	Resource Provider	TLI	Definitely if we weren't **given the help** we could have ended up with you know, a half done project.	By acknowledges the importance of the leaders assistance the employee enters social exchange.
Leader Support	Resource Provider	TLK	…having that kind of support – look, Jesus**, it gave us every, every reason to think that we**	The leader builds confidence and belief by providing the resources leading to social exchange

			were going to do it and we did do it.	

Table 6 Leader's role as resource provider within the context of social exchange

Provision of resources were vital in fulfilling continuous improvement activity roles, as TLE explained "the availability of resources such as time, training, budget and support department availability are absolutely key to making a project a success". The manager's perspective echoed this view, reinforcing the social exchange aspect of resource availability: "… I actually feel that if they [Team] know that other people are giving their time to their project they understand its importance and it strengthens their resolve to complete it". A common theme also was how the provision of the resources served to reinforce the importance of the continuous improvement project to the team, which acted to strengthen their determination to arrive at a solution. The manager's commitment and ability to making the necessary resources required for the continuous improvement project available is also a key factor in establishing and demonstrating trust.

Leader's Role in Providing Emotional Support

The leader's role in providing emotional support when the employee's morale was at its lowest was fundamental towards creating the social exchange (table 7).

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Leader Support	Provide Emotional Support	TLI	There was definitely like a kind of nervousness or a bit of a fear of failure on my part. Maybe a fear of am I good enough, am I the right person for the job? **She pulled me through.**	Without the existence of an social exchange it is unlikely that the individual would have opened up to the leader, and by doing so it further enhanced the

				social exchange.
Leader Support	Provide Emotional Support	TLS	The support was great, you know you're not going to be shouted down or laughed at. It's just everybody takes it seriously. **I felt needed, supported, and that was a nice feeling**.	The emotional support during the difficult period helped the person to maintain their dignity and created feelings of trust and respect.

Table 7 Leader's role in providing emotional support within the context of the social exchange

Recognition of this role by the leaders was also instrumental in reinforcing social exchange within the team. As MGRA explained:

> At the beginning it was crucial that you were there to support them, and go over the stuff, even just to give them a boost. "Yeah, that's it, that's the way, you're going well, you're getting the hang of it". Or if they weren't going in the right direction to support them. Say, "I think maybe you're kinda gone off track here a little bit. What do you think?" Most of the time people have the answers in their heads; my job is to give them the confidence and encouragement to get them out.

The team leaders expressed gratitude for the support. TLA commente; "It was good, you just felt supported, it gave you a lift when you needed it and you were definitely more confident going forward". This was a view endorsed by TLS; "I really appreciated the support I got from MGRF. It helped my confidence and meant I wasn't second guessing myself the whole time". The excerpts in table 7 serve to show just how vulnerable the participants were at the outset of the project and how the support of the leaders at that crucial time created the social exchange. The dominant role that the leader plays in initiating, growing and sustaining the social exchange relationship by providing support in various forms has been demonstrated in this section of the findings.

Improve Daily Work

As highlighted in Figure 4, pursuit of empowerment and seeking to make work fulfilling within the continuous improvement initiative can enable an improved working environment, which in turn contributes to feelings of trust which is an element of social exchange. When discussing this theme it is important to provide some background on the team leader's role within Lake Region Medical. Typically they will have responsibility for managing a team of between 20 to 25 production associates to meet daily quality and production targets. They also work in partnership with the engineering and maintenance teams to ensure that their areas equipment and processes are fit for purpose.

Empowerment

As can be seen from table 8, the responses reflect how much value people put on the responsibility and authority being delegated to them. The analysis indicates that organisations through their staff engage and empower people in their own work. This displays a trust on behalf of the organisation which can lead to a social exchange between relevant parties.

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Improve Daily Work	Empowerment	TLN	The kudos of actually being able [Empowered] to fix a long standing problem…the people who have to work on the floor – **they see an improvement in the work you've done, well, they're happier.**	When responsibility is delegated to people to improve their work through the continuous improvement process it creates a social exchange and increases job satisfaction.

| Improve Daily Work | Empowerment | TLK | I took **great self-satisfaction** out of, the fact that we as a team were able to come up with a solution and fix what had been a serious customer complaint. | The feelings of pride and satisfaction resulting from successful involvement in continuous improvement events further stimulate the social exchange and lead to further involvement. |

Table 8 Empowerment and its contribution to an improved working environment

The impact of empowerment on the working environment is reinforced within the data. As TLE pointed out: "once you give people the autonomy and the opportunity to work on projects what they can achieve, is nothing short of remarkable". How the managers expressed their willingness to delegate responsibility, a necessary aspect of empowerment, was also indicative of respect and trust, particularly when reciprocated: "they were encouraged to voice their opinion, propose changes, challenge the status quo – and they sure did" (MGRD). Thus empowering people to solve work related problems demonstrates a belief and trust in their ability from the leader.

Make Work Fulfilling

The opportunity to have a positive effect on one's own working environment was voiced very strongly by all participants as a worthwhile activity (table 9).

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Improve	Make Work	TLN	**I could see the impact** …**it**	The continuous

Daily Work	Fulfilling		**was a critical item for me to get fixed.** There's no better thing that you have a system set up and something that works. **I was proud out.**	improvement experience engaged TLN in her work and left her feeling positive about her contribution.
Improve Daily Work	Make Work Fulfilling	TLO	…**we were** able to get the machines to where we needed them to get our efficiencies and quality right. **It felt good,** you're coming into work and you weren't coming into a mess.	TLO explains how the continuous improvement event improved critical aspects of her work and made work enjoyable, rather than the chore it used to be.

Table 9 Work fulfillment and its contribution to an improved working environment

MGRF put this link between contribution and fulfillment down to the fact that people were encouraged to sort out the issues that they felt important, rather than having it imposed;

> I think the key thing was they were working on a lot of the problems that were tormenting them every day. They started out solving the small issues. Then they worked on the big issues until finally they were working on problems which affected the whole factory.

The wider implications arising from the removal or reduction of the daily problems and frustrations within the working environment are noted by TLB;

> Improving things is very important, you know, if you want to work in a good environment, where you come to work with a smile on your face and know as a team that if a problem crops up we can fix it.

The analysis indicates that when employees understand how they can contribute to the organisation and they are in a position to take control and influence their own work they find

it much more satisfying and interesting which contributes to a social exchange as they have a sense of wishing to give back.

Employee Recognition – Leader and Senior Management

One of the strongest themes which emerged from the data analysis was the importance of recognition in building people's confidence, pride and self-esteem which in turn helped lead to a sense of social exchange. Principal amongst this was the role provided by the leader in not alone providing recognition but also as the social exchange develops introducing their people to other influencers within the organisation. These introductions demonstrate how the leader has become an advocate on behalf of his subordinate and in line with social exchange norms lead to a sense of obligation or desire on the part of the recipient to reciprocate for the favour granted.

All the team leaders expressed great delight and satisfaction when speaking about their initial selection for participation in the continuous improvement event by their manager (table 10).

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Employee Recognition	Recognition from the Leader	TLE	When MGRC selected me [For participation] I felt very proud, obviously that **a manager believed in me and was putting his faith and trust in me.**	The recognition brought about by the initial selection resulted in an social exchange built on trust.
Employee	Recognition	TLH	I think it's great that my	By identifying the

Recognition	from the Leader		skills were being **recognised**. **It's nice to be acknowledged** that you've done, gone above and beyond what you should you know?... **it makes you want to give more, you know.**	individual as someone who has performed well in the past and presenting them with potential to achieve more through involvement in the continuous improvement project the leader has initiated a social exchange which has resulted in a sense of obligation to reciprocate.

Table 10 Leader recognition within the context of the social exchange

Part of the expressed delight relates to the recognition that comes with being selected from among a large and talented pool of their peers competing for a very small number of positions. This was more than likely the first time their performance at work had been acknowledged and recognised with such an opportunity. As MGRC noted:

> People are delighted to be chosen for participation probably because you see potential in them…you've seen something there, a strong interest in what they're doing, how they're applying themselves or maybe a hunger to become involved.

The recognition that existed here is symbolic of how social exchange has taken place. The feelings of pride and satisfaction that the individuals garnered from the manager acknowledging their contribution and trusting them through selection, has resulted in reciprocation.

The involvement in continuous improvement in all cases also exposed the employees to members of the company's senior leadership team and on occasion, corporate executives (table 11).

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Employee Recognition	Recognition from Senior Leadership	MGRA	…you definitely see them **walking a foot taller coming out of the room** than when they came in after doing a presentation [On continuous improvement to the Senior Leadership Team]**.**	The confidence and sense of achievement after sharing their personal continuous improvement success story with senior team members creates a sense of obligation to the managers who enabled the opportunity.
Employee Recognition	Recognition from Senior Leadership	TLI	The continuous improvement manager sent a **personal email** just saying, 'Well done and congratulations…it was a big, kind of, a pat on the back for myself, a great **confidence booster** and gave me the **encouragement to do more.**	The encouragement and recognition by the continuous improvement manager provided the stimulus for further involvement which is a form of social exchange.

Table 11 Senior management recognition within the context of the social exchange

So powerful was the recognition they received from this group that even now, several years on their excitement was evident as they recounted the social exchange event to the researcher:

> I got promotion on the strength of my [continuous improvement] work, but I think presenting in front of the Vice President and the Director of Operations at the time was very, very powerful and had a lot to with it (TLE).

This social exchange was facilitated by the manager acting as sponsor to highlight and promote the achievements of the individuals and teams concerned. TLK stated; "I keep going back to how complimentary [VP] was at the time. I was probably walking ten feet tall high going around the place that evening; you know to get so much praise and encouragement from the site leader". The social exchange was initiated by the manager's role in highlighting his peoples performance and potential which in turn was reciprocated as suggested by the words of TLC, "It was brilliant to work for a manager who always made sure his team got the recognition their hard hard work and results deserved…it definitely allowed me to put myself out there and show what I was capable of". For two other examples of how involvement in continuous improvement provided the opportunity for individuals to raise their profile within the company refer to table 11.

Personal Development Opportunity

One of the most interesting and powerful insights that emerged from the analysis was how the experience of working on the continuous improvement event resulted in not only progress in their job and career prospects but in some cases was a life changing experience (table 12). It was also evident how a social exchange was created through the evolution of feelings of loyalty and trust and connection.

Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Personal Development Opportunity	MGRD	Now, there was one girl in the department who never spoke out before, you know publicity or whatever because she was	The manner in which the manager speaks about his employee displays loyalty and trust and reveals a type of

187

		extremely nervous. So, she's come on leaps and bounds…**the journey she went thought was incredible, life changing.**	parental relationship where he protects and enables her development at the same time.
Personal Development Opportunity	TLA	When I look back at the person I was and the person I am now I see two completely different people, and I think about the person who would have been nervous and unsure, and had maybe a bit of self-doubt, wasn't sure what I can contribute kind of person. Now he's got experience, he's a lot more confident, a lot more self-assured, and I'm eager to continue that. So, there's **an awful lot of benefit that I have made** [from continuous improvement involvement] and **as a result it's driving me on to do more, for myself and for the company**.	TLA attributes her growth as a person to her involvement in continuous improvement He states her desire for further involvement and a commitment to achieve more for the organisation.

Table 12 Personal development opportunity within the context of the social exchange

The confidence garnered from the experience expanded far beyond the workplace into the homes and lives of the participants as TLI described, "well, the experience of working on the continuous improvement projects helped me, I suppose, mature as a person…it's no coincidence I've done three more projects in the last couple of years". The fact that all managers expressed satisfaction at seeing how far their people had progressed is symptomatic of the social exchange that had taken place. MGRB "…it has grown their

confidence, you can see it, they wouldn't have had it in the earlier years, and it is this that has really carried them forward".

Fulfilling Ambition

All the team leaders relayed a common feature of having latent ambition and appeared to be waiting for an opportunity to participate in the 8SPSP as a means to pursue this goal (table 13). Having the ability to fulfil one's ambition created a sense to wanting to "pay back" the individual who had facilitated the individual's career ambitions.

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Personal Development Opportunity	Fulfil Ambition	TLC	I was stuck in a rut whereas now I just want to get better and do better and better. **I don't want to stop at what I've done so far.**	The participation in continuous improvement led to the individual wishing to advance further. This appeared to generate a feeling of satisfaction and a sense of loyalty to those who had facilitated his personal development
Personal Development Opportunity	Fulfil Ambition	TLS	I had that [Ambition] before I started work here. I knew that I had capabilities inside me that hadn't been released yet. She [MGRF] made sure that I was being pointed in the right direction. **Now we**	The leader's role in assisting TLS's ambition has resulted in feelings of trust, loyalty and reciprocity.

			share the same vision and we're working towards the same goals. She knows that she can always rely on me.	

Table 13 Fulfilling ambition as an aspect of personal development opportunity

Even though some of the team leaders were shy about expressing their ambition, all of the managers affirmed the view that a lot of their people had untapped potential which they were anxious to tap into. As MGRB outlined: "these are very bright people with the potential and ambition to make a greater contribution to the company. I see my job as helping them to achieve that potential". The team leader's views in table 13 also support MGRB's contention that involvement in continuous improvement engages the employee and initiates a type of continuous improvement – social exchange spiral as outlined by TLS above, "she [MGRF] made sure that I was being pointed in the right direction. Now we share the same vision and we're working towards the same goals. She knows that she can always rely on me".

Demonstrate Capability

The importance of what the opportunity means and where it can lead to was not lost on TLE when reflecting on his own experience, "the involvement in continuous improvement was the starting point for me, the chance to show what I could do. It was definitely the stepping stone of where I've got to today".

Once provided with the opportunity to realise their ambition, the employees worked tirelessly at making their involvement as successful as possible and repaying their manager's trust in them (table 14).

190

Theme	Sub Theme	ID	Text Extract	Narrative Connection Between Continuous Improvement Enablers and Social Exchange
Opportunity	Demonstrate Capability	TLH	…it kind of gave me the initial kick on, the more I did the more I realized that, yeah I can, I can do this, **I can contribute more**…to be honest **I owe** MGRB and the company an awful lot of gratitude for the courses and stuff **they've put my way over the years**.	TLH outlines his gratitude to the company with a commitment to contribute more. There is recognition that he "owes" the organisation and has a desire to repay this.
Opportunity	Demonstrate Capability	TLC	**I'm thankful** for the chance that [MGRD] put my way and **work hard to repay his faith in me.** It [continuous improvement involvement] kind of got me out there, **got me noticed and I got to make my mark.** If I didn't get that opportunity I know for definite I wouldn't be in the team leader's job today.	By selecting TLC the manager triggered the social exchange process which lead to feelings of gratitude and a wish to reciprocate for the favour granted.

Table 14 Demonstrating capability as an aspect of personal development opportunity

All of the managers were of the view that their people possessed untapped potential. As MGRB outlined;

> When you look at the capability these people have, it's frightening. These are very strong young people that have a lot of good education and they really wanted, really wanted to move ahead. Once they started to develop themselves they don't want to stop – it was like a drug to them.

In this section of the findings the researcher has outlined how the continuous improvement enablers, both individually and collectively, create an environment which fosters feelings of mutual trust and respect as the parties get to know, believe and depend on each other. This can also contribute to the creation of a social exchange and a sense of obligation to each other. The analysis would also suggest that it is not simply a case of the continuous improvement elements driving the social exchange rather it is the interplay between them which suggests that the continuous improvement elements the dynamics of social exchange may be mutually influencing. In the final part of the paper the researcher will outline the findings as they relate to the third and final research objective which explores whether the relationship between continuous improvement and social exchange is connected to employee engagement.

Perceptions of Engagement Connected to the Social Exchange Process

The researcher's third and final objective was to identify the perceived impact of the process of exchange for the employee with regards to employee engagement. Three main themes evolved from the analysis. These are a perceived increase in job satisfaction, the perceived potential for greater contribution to the organisation and an observed increase in discretionary effort (refer to Figure 5).
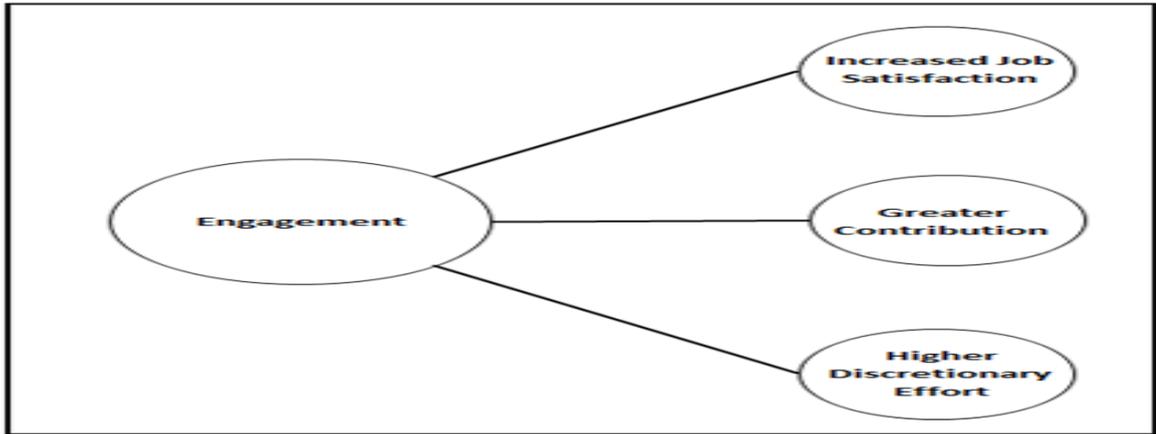
Figure 5: Thematic map illustrating themes and sub-themes relating to perceptions of employee engagement

Increased Job Satisfaction

Employee satisfaction as exhibited by feelings of content and fulfilment with their work suggested that the exchange process could be linked to job satisfaction within the context of the continuous improvement process (table 15).

Theme	ID	Text Extract	Narrative on the interplay between Continuous Improvement, Social Exchange, and Employee Engagement.
Increased Job Satisfaction	TLC	It's the way you deal and get around these obstacles [Encountered during the project]. Do you hop over, do you go underneath, do you go around, **sometimes you need help**, but you always do get around them. I don't know, it just gives you **great satisfaction and joy**.	TLC makes the connection between her own effort (in particular with overcoming problems) and the help she received with feelings pride and satisfaction.

Increased Job Satisfaction	TLO	**I felt brilliant, proud out [on completion of the continuous improvement project].** Because **you were after putting the effort in and the company was putting the effort in**. It was the best project I ever worked on in Lake Region, **a real win win.**	TLO expresses the reciprocal effort that both parties both into the continuous improvement project and links her increased job satisfaction to the pride and joy she experienced on completing the continuous improvement project.

Table 15 Job satisfaction within the context of the social exchange

In some cases the feelings of satisfaction extended beyond the actual continuous improvement project itself to encompass personal growth as expressed by TLA, who ties these feelings back to her relationship with her manager:

> To me personally it's identified that I'm quite good at presenting and speaking about the [continuous improvement] projects…I think it did build my confidence, and gives me an opportunity to do something different every now and again. So, if I hadn't had got involved in any of these things we wouldn't have discovered that aspect of my personality… I'm very grateful to MGRA for giving me that opportunity.

According to MGRC the continuous improvement process involves navigating and overcoming major obstacles and it is during these difficult periods that bonds of loyalty, trust, and interconnections are formed, "the satisfaction that people get from improving their one own working environment and justifying the trust that you have placed in them is very special and provides a daily reminder of their achievements". This view was echoed by TLE, "completing the continuous improvement project makes you very proud. You feel that you've achieved something worthwhile and you just can't wait to get involved in the next one", and TLH, "it was fantastic; unbelievable…I'd love to be able to give that experience to every associate on the factory floor". The emotive language used by all these respondents demonstrates how the social exchange built up during the continuous improvement process was connected in some way to employee engagement.

Greater Contribution

The analysis indicated that all team leaders believed that their contribution to the company had increased as a result of their involvement in the continuous improvement event. This may be due to the sense of obligation they have to the leader for his advocacy and a desire to use the skills and knowledge gained from their continuous improvement involvement as evidenced by TLH, "because now I have the knowledge, skills and confidence I think my eyes are always looking for something to improve, I think, you're constantly thinking about it [continuous improvement] now. It's in your brain, always looking for it". All five managers were of the opinion that their people were contributing more to the company as a result of the strengthened relationship and the social exchange that had developed during the continuous improvement event (table 16).

Theme	ID	Text Extract	Narrative on the interplay between Continuous Improvement, Social Exchange, and Employee Engagement.
Greater Contribution	TLL	I'm definitely more aware of how I can contribute to the success of Lake Region, New Ross. **I'm always on the lookout for ways to make things better, save money etc.** I am also more aware of the importance of **teamwork which is why I'm such a great driver of the company's social activity.**	TLL explains how the understanding and development gained during the continuous improvement process has generated trust and loyalty. An outcome of this is the discretionary contribution she is making by leading the company's social activities.
Greater Contribution	TLB	If I'm at home and, and **something pops into my head or I have an idea,** yeah I jot it down straight	The feelings of excitement and passion displayed by TLB for his work show how the

| | | away. If I get a light bulb moment, you know I'm not going to wait until Monday; I'll work on it there and then so **I won't lose the inspiration.** | continuous improvement – social exchange spiral touched on earlier by the researcher is active. |

Table 16 Greater organisational contribution within the context of the social exchange

Part of the extra contribution is according to TLS down to having a better appreciation of how the plant is managed and the role she plays within it:

> My understanding of how the factory works has improved greatly. I know now how everything fits in together, how continuous improvement initiatives across the floor are making us more competitive and securing our jobs. I'm not just doing it [continuous improvement] for the love of the job. I'm doing it to secure my future. My whole life is based around what I'm getting here.

This view is echoed by the managers "you can see them more engaged, more switched on. People want to make their jobs better, their work more efficient. They want to get more involved, they want to do more for me and do more for the company" (MGRC). The employee's desire for involvement and willingness to make a greater contribution indicates their need to give something back as a result of what they have received.

Increased Discretionary Effort

The analysis provided numerous examples of discretionary effort which is reflective of social exchange where employees were going above and beyond what would normally be expected of them as acknowledged by MGRC:

> …the one that really stands out for me is [production associate] who came in on a Monday morning with a set of pencil drawings of a tool that he was trying to describe that would help him do the job better. Over the previous weekend he had pencil sketched with exact measurements and dimensions his proposal for what he wanted the machine shop to make…so like, that, that's when you get the feeling, yes, this is what work should really be about, all of us respecting each other and pulling together as one team to get the job done in the best way possible.

196

The following excerpts (table 17) provide further evidence of the perception that employee engagement in the form of discretionary effort has resulted from the social exchange present in the continuous improvement process.

Theme	ID	Text Extract	Narrative on the interplay between Continuous Improvement, Social Exchange, and Employee Engagement.
Higher Discretionary Effort	TLK	If there's an issue, if there's a problem, I'd stay after shifts, I'd come in on days off if it needs to be sorted…nights I probably didn't come home till 10 o'clock at night. There was other nights I was back in at five o'clock in the morning.	TLK is repaying the faith of his leader for providing the opportunity by applying himself fully in ensuring a successful outcome.
Higher Discretionary Effort	MGRB	…you should see the people, the amount of time and effort they put into it, the amount of times they stay back when they wouldn't be asked to stay back.	The discretionary effort is an outcome of the trust and loyalty built during the continuous improvement process.

Table 17 Discretionary effort within the context of the social exchange

The responses from the team leaders confirmed the voluntary nature of their discretionary work, as noted by TLR:

> Like, say a Saturday, I would have come in to work on them [continuous improvement projects] but bring…Now, you bring them home in your mind, so you would actually be thinking about them at home. You're waking up in the middle of the night thinking about them. 'Yeah, I could do this and then you're going, seriously?' It's excitement, yeah. It's definitely a good thing

> when you get an idea and then you're just hoping you'll remember it in the morning, like, you'd nearly want to write it down, like, yeah.

The findings suggest that there may be a link between the social exchange developed within the context of the continuous improvement process and its perceived impact with regards to employee engagement. All research participants perceived that the employees who were involved in a process of social exchange as a result of their participation in the continuous improvement process exhibited feelings of greater satisfaction, perceived that they contributed more to the organisation and believed that they applied a greater level of discretionary effort.

Conclusion

The researcher outlined the data analysis strategy which he adopted and the findings it produced. The analysis produced eleven main themes which suggest that involvement in continuous improvement can generate feelings of trust and respect while also creating a sense of obligation to the other partner in what is a developing social exchange relationship. The findings also show that these feelings may translate to increased employee engagement.

Four main themes were identified within the continuous improvement process which have the potential to enable the social exchange to occur. These are having a supportive leader who will act as a mentor, provide emotional support and ensure the necessary resources are in place for the project. The importance of employee recognition also emerged as a main theme both from the line manager and from other members of the senior management team. Another theme which was identified as a continuous improvement enabler of social exchange was the personal development opportunity provided by the continuous improvement event, particularly for enabling employees to showcase their talents and capabilities as they aim to fulfil their ambition. The final enabler was the opportunity for the employee to improve their daily work. This is facilitated by management empowering them to design and implement changes that will make their work enjoyable and fulfilling.

The analysis identified how all these enablers both individually and in some cases collectively can initiate the social exchange process by generating feelings of trust, loyalty, a desire to reciprocate for support or favours granted, and in some cases an emotional connection. The final three themes suggest the social exchange created or enhanced during the continuous improvement process was connected to perceived employee engagement through job satisfaction, a greater contribution and higher discretionary effort.

In the final section of this study the researcher will discuss these findings in relation to extant literature and current management thinking as well as outlining his conclusions and recommendations before finally setting out the limitations, theoretically informed contributions to practice, and areas for further research.

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Appendix 1   Phase 2 Interview Questions

	Phase 2 Questions	Rationale	Literature	Research Objective
Section 1: To establish if the continuous improvement process led to social exchange and how did this take place.				
01	When you look back do you think the invitation from the manager to participate in the continuous improvement initiative released an unfilled ambition within you? In what way? Without the involvement, do you think that ambition would have remained dormant? What do you think happens once ambition is released?	To establish if this was the first step in the reciprocation cycle. To understand how significant the opportunity was to the team leader as there is likely to be a direct correlation between that and the sense of reciprocation. Is it a singular event or is it likely to create a spiral of on-going personal development.	The reciprocation cycle begins when one party makes a first move (Cropanzano and Mitchell, 2005). When a leader provides benefits above the normal requirements to the employee, reciprocity comes in to play (Wayne, *et al.*, 1997). Because it can be seen as a discretionary reward within the gift of the leader or organisation training has been linked to social exchange (Witt and Broach, 1993). Giving employees the opportunity to develop themselves increases their engagement with the organisation (Saks and Gruman, 2014). When organisations contribute to the development of their employees it can motivate them to achieve their full	1

			potential (Levinson, 1965).	
02	Was the support of your leader during the continuous improvement activity important? In what way? How did it make you feel? Was that the first time in your career that a manager showed such interest in developing you?	To expand on the connection between leader support and the emotional connection identified in the thematic analysis. To build on a theme identified in the Phase 1 interviews that people have a special loyalty to managers who were influential in the early stage of their career.	Leaders who routinely deliver feedback and recognition are seen by their followers to be investing in the social exchange relationship (Dulebohn *et al.*, 2012). Schaufeli and Salanova (2007) propose that supporting employees in the workplace not alone reduces the risk of potential difficulties in the future but also builds employee confidence and fosters engagement.	1, 2
03	At what stage during the continuous improvement activity did you start to trust the other person? What happened? Have you experienced this before in your careers? Tell me about it	To understand how the trust developed and also to was there a particular (anchoring) event or incident that sparked the emotional connection or did it evolve over time To establish if this high level of trust is usual.	Trust is the foundation for social exchange to develop (Eisenberger, *et al.,* 2010; Konovsky and Pugh, 1994). Ballinger and Rockmann (2010) propose that while social exchanges can be built up over time they can also develop rapidly in what are known as key exchanges.	1
04	When you selected the participants did you consider their likelihood of being successful? Did that influence how much support you gave them? If they failed, would you have felt	To try and understand if when a manager selected an employees to participate he had already (Consciously or unconsciously) invested something of himself in their future.	When leaders believe that their people will succedd they are more likely to nuture and support a social exchange with them (Dulebohn *et al.,* (2012). In a high quality relationship followers can rely on their leaders for support,	2

			encouragement and career investment (Graen and Uhl-Bien, 1995).	
05	Has the experience in continuous improvement made you more likely to stay or leave Lake Region? Why is that?	Increased job satisfaction is likely to increase employee's intention to stay.	Involving employee in work practices has many advantages for organisations including employee retention (Konrad, 2006)	3

Appendix 2   Data Analysis Process

Phases 1-6	Data Analysis Process
Code the data.	Code the data with the aid of a framework constructed from the assumptions the researcher has arrived at from both a theoretical standpoint and from an initial review of the transcripts. This coding process takes a number of iterations.
Identify themes.	The researcher begins to conceptualise the themes from the coded text pieces, taking out the prominent, shared and important themes. The text can then be re-read based on the coding to detect the underlying themes and configurations.
Create networks.	Themes are arranged into clear groups. Some of the themes may be so similar that they can be grouped into one network or thematic map. If they don't fall under the one theme then another network must be constructed. Each group has a global theme which is underpinned by the basic and organising themes before finally being rearranged into organising themes creating groups of basic themes centred on bigger common ideas.
Describe and explore the networks.	The researcher revisits the text through the lens of the global, organising and basic themes before proceeding to describe the network using text extracts to support his findings. Finally in this step he will explore the network by identifying the main relationships that are comprehended.
Summarise the thematic network.	In step five the researcher builds on the understanding gained in step four with the objective to refine and summarise the major themes that have emerged in the network and to make very clear the patterns that have emerged from the investigation.
Interpret the relationships.	In step six the researcher referencing back to the research questions and objectives, finally brings together his findings and the theory that underpins what has emerged from the text.

Sources: Attride-Stirling (2001).

Appendix 3   Table of Main Themes and Sub Themes as Emerged from the Data

Main Theme	Sub Theme
Improve daily work	Empowerment
	Make work fulfilling
Leader support	Leader as mentor
	Ensure provision of resources
	Provide emotional support
Employee recognition	Recognition from senior leaders
	Recognition from leader
Personal development opportunity	Demonstrate capability
	Fulfil ambition
Desire to reciprocate	
Feeling of trust	
Sense of loyalty	
Presence of an emotional connection	
Greater contribution	
Higher discretionary effort	
Increased job satisfaction	

Appendix 4 Initial Set of Nodes

	Name	Sources	References	Created On	Created By	Modified On	Modified By
1							
2	Ambition	14	28	12/05/2016 05:03	NH	12/08/2016 14:21	NH
3	Apprehensive	6	6	12/05/2016 23:10	NH	12/08/2016 13:51	NH
4	Assertiveness	3	4	10/08/2016 05:50	NH	12/08/2016 14:21	NH
5	Company goals	6	8	12/05/2016 05:52	NH	10/08/2016 05:52	NH
6	Confidence boost	12	21	12/05/2016 06:16	NH	12/08/2016 14:17	NH
7	Demonstrate capabilities	7	3	17/07/2016 05:28	NH	12/08/2016 14:23	NH
8	Discretionary effort	13	20	12/05/2016 05:02	NH	10/08/2016 05:53	NH
9	Doubts	2	2	10/08/2016 05:53	NH	12/08/2016 13:46	NH
10	Empowerment	6	3	12/05/2016 06:42	NH	12/08/2016 14:20	NH
11	Engagement	8	11	12/05/2016 05:42	NH	12/08/2016 10:58	NH
12	Exposure to other departments	3	3	10/08/2016 06:05	NH	12/08/2016 14:02	NH
13	Exposure to SLT	8	12	12/05/2016 01:37	NH	02/08/2016 04:45	NH
14	External pressure to deliver results	1	2	17/07/2016 02:02	NH	10/08/2016 06:23	NH
15	Feedback	0	0	12/08/2016 15:07	NH	12/08/2016 15:07	NH
18	Improve work	6	8	17/07/2016 05:29	NH	12/08/2016 14:11	NH
19	Increased contribution	6	7	10/08/2016 06:28	NH	12/08/2016 14:23	NH
20	Initiative	1	1	10/08/2016 06:08	NH	12/08/2016 14:30	NH
21	Internal pressure to deliver results	13	21	12/05/2016 01:38	NH	12/08/2016 12:07	NH
22	Leader as a mentor	5	6	10/08/2016 06:09	NH	12/08/2016 14:24	NH
23	Leader employee relationship	15	45	12/05/2016 01:23	NH	12/08/2016 14:06	NH
24	Leader feedback	6	10	12/05/2016 06:40	NH	12/08/2016 14:24	NH
25	Leader support	11	15	12/05/2016 05:34	NH	12/08/2016 12:48	NH
26	Likeability	15	20	12/05/2016 01:32	NH	02/08/2016 05:53	NH
27	Loyalty to the leader	5	7	10/08/2016 06:11	NH	12/08/2016 14:12	NH
28	Mutual Benefit	0	0	15/08/2016 13:40	NH	15/08/2016 13:40	NH
30	Obligation (to the employee)	1	1	10/08/2016 06:12	NH	12/08/2016 14:00	NH
31	Obligation (to the leader)	18	65	12/05/2016 01:26	NH	12/08/2016 14:13	NH
32	Obligation (to the organisation)	3	13	12/05/2016 07:10	NH	12/08/2016 14:01	NH
33	Obligation to the leader (over time)	2	2	10/08/2016 06:13	NH	12/08/2016 13:33	NH
34	Peer support	2	2	17/07/2016 02:05	NH	02/08/2016 05:41	NH
35	Personal development	18	53	12/05/2016 01:28	NH	12/08/2016 14:20	NH
36	Pride	3	4	10/08/2016 06:14	NH	12/08/2016 14:14	NH
37	Recognition from the leader	12	24	12/05/2016 01:30	NH	12/08/2016 10:43	NH
38	Reduce waste	1	1	10/08/2016 06:16	NH	12/08/2016 14:24	NH
39	Relationship with other team members	13	26	12/05/2016 05:14	NH	10/08/2016 06:15	NH
40	Resources	2	3	17/07/2016 05:33	NH	02/08/2016 05:05	NH
43	Rewards (Financial)	1	1	12/05/2016 06:03	NH	10/08/2016 06:16	NH
44	Rewards (Non-financial)	2	2	10/08/2016 06:16	NH	12/08/2016 13:48	NH
45	Rules	2	4	17/07/2016 02:10	NH	12/08/2016 13:53	NH
46	Satisfaction	5	5	10/08/2016 06:17	NH	12/08/2016 14:15	NH
47	Showcase capabilities	4	6	12/05/2016 06:45	NH	12/08/2016 11:14	NH
48	Teamwork	5	7	12/05/2016 06:50	NH	12/08/2016 12:56	NH
49	Training development opportunity	11	14	12/05/2016 01:28	NH	10/08/2016 06:22	NH
50	Transformational leadership	8	11	12/05/2016 01:33	NH	12/08/2016 14:16	NH
51	Trust	15	33	12/05/2016 01:35	NH	12/08/2016 14:08	NH
52							

Appendix 5 Final Set of Nodes

Name	Sources	References	Created On	Created By	Modified On	Modified By
Engagement	8	11	12/05/2016 05:42	NH	12/08/2016 10:58	NH
Discretionary effort	13	20	12/05/2016 05:02	NH	10/08/2016 05:53	NH
Increased contribution	6	7	10/08/2016 06:28	NH	12/08/2016 14:29	NH
Job Satisfaction	0	0	24/08/2016 15:49	NH	24/08/2016 15:49	NH
Improve work	6	8	17/07/2016 05:29	NH	12/08/2016 14:11	NH
Empowerment	6	9	12/05/2016 06:42	NH	12/08/2016 14:20	NH
Improvement	1	1	10/08/2016 06:16	NH	25/08/2016 13:59	NH
Leader support	11	15	12/05/2016 05:34	NH	12/08/2016 12:48	NH
Leader as a mentor	5	6	10/08/2016 06:09	NH	12/08/2016 14:24	NH
Leader feedback	6	10	12/05/2016 06:40	NH	12/08/2016 14:24	NH
Resources	2	3	17/07/2016 05:33	NH	02/08/2016 05:05	NH
Personal development opportunity	18	53	12/05/2016 01:28	NH	24/08/2016 16:23	NH
Ambition	14	28	12/05/2016 05:03	NH	12/08/2016 14:21	NH
Showcase capabilities	4	6	12/05/2016 06:45	NH	12/08/2016 11:14	NH
Recognition	0	0	24/08/2016 16:09	NH	24/08/2016 16:09	NH
Exposure to SLT	8	12	12/05/2016 01:37	NH	02/08/2016 04:45	NH
Peer support	2	2	17/07/2016 02:05	NH	02/08/2016 05:41	NH
Recognition from the leader	12	24	12/05/2016 01:30	NH	12/08/2016 10:43	NH
Social Exchange	0	0	25/08/2016 13:54	NH	25/08/2016 13:54	NH
Emotional Connection	0	0	24/08/2016 16:04	NH	24/08/2016 16:04	NH
Loyalty	0	0	25/08/2016 14:04	NH	25/08/2016 14:04	NH
Reciprocation	0	0	24/08/2016 16:19	NH	24/08/2016 16:19	NH
Trust	15	33	12/05/2016 01:35	NH	12/08/2016 14:08	NH

Appendix 6   Node List by Participant

Name	Nodes	References
MGRA	15	30
MGRB	12	30
MGRC	18	34
MGRD	14	24
MGRF	14	34
TLA	18	28
TLB	14	26
TLC	12	19
TLD	13	26
TLE	13	26
TLG	12	15
TLH	23	31
TLI	25	41
TLK	16	45
TLN	21	35
TLO	14	23
TLQ	4	4
TLR	15	27
TLS	16	22

Section 3: Discussion, Conclusions and Recommendations

Introduction

In response to the call for research into developing strategies which will engage employees further in their work (Gruman and Saks, 2011; Saks, 2006; Shuck, 2011), the researcher set out to address the following research question; '*Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?'*. As the researcher's understanding of this topic developed, the research objectives went through several iterations until finally settling on the following:

1. To consider the existence of social exchange within the context of the continuous improvement.

2. To establish the elements within the continuous improvement activity that contributed to a sense of exchange and to identify how these elements contributed to the emergence of the social exchange.

3. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

This study was carried out at Lake Region Medical, an Integer Company', New Ross, Co. Wexford, Ireland where the researcher is employed as Continuous Improvement Director. The study is part of a Doctorate in Business Administration (DBA) pursued by the researcher on a part-time basis over the research period 2013 to 2017. While the storytelling method was initially pursued in this study, the critical incident technique replaced this approach based on the evolution of the research objectives and on reflection of examiner feedback (see section 2, papers 2 and 3). Critical incident technique was chosen as it had the potential to deliver context-rich data (Chell, 2012; Douglas *et al.*, 2009; Gremler, 2004; Johnston, 1995) which could assist the researcher in discovering if continuous improvement initiatives can simulate social exchange which in turn may impact upon employee engagement. In the data collection phase the researcher carried

out a series of interviews where he focused on the experiences of fifteen team leaders (ID codes TLA to TLS) and five managers (ID codes MGRA to MGRF) who have been involved in the company's continuous improvement program over the past ten years.

The analysis of the findings found that the continuous improvement process provided the ingredients necessary for social exchange to emerge, and which could be subsequently linked to perceived employee engagement.

This section discusses the research question and objectives in light of the findings and in the context of the relevant literature. It presents the conclusions and recommendations from the study before finally setting out the limitations, theoretically informed contributions to practice, and identifies areas for further research.

Discussion

The Existence of Social Exchange within the Context of a Continuous Improvement Activity

The findings of the study suggest the presence of social exchange which may be linked to the research subjects' experience of participating in the continuous improvement activity. While the elements normally associated with social exchange such as, loyalty, trust and reciprocation (Eisenberger *et al.,* 1997; 2010; Gruman and Saks, 2011; Konovsky and Pugh, 1994) surfaced from the interviews, it could also be suggested that part of the social exchange relationship included an emotional connection (refer to Figure 1).
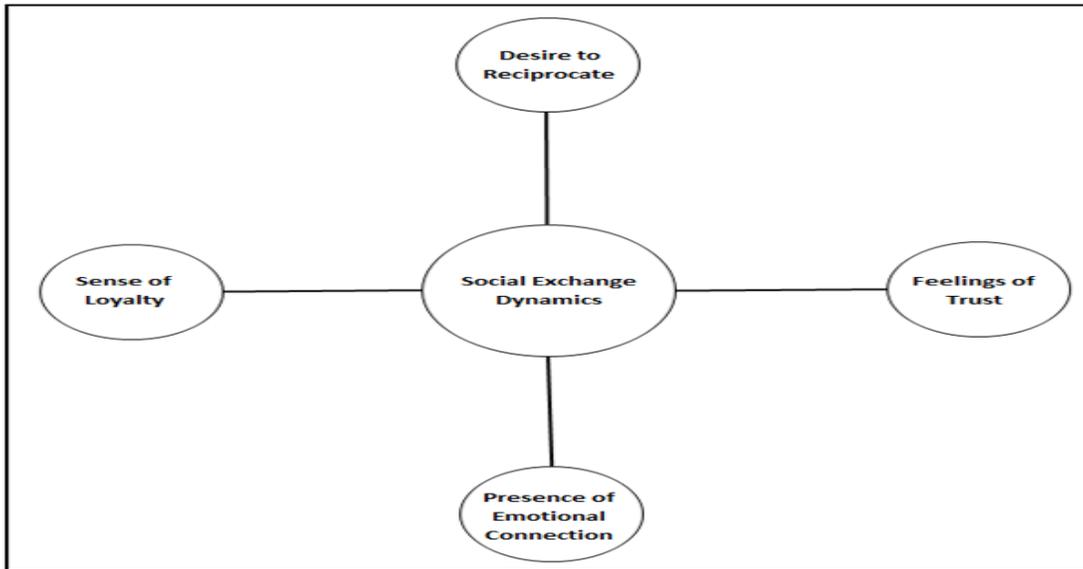
Figure 1 Thematic map illustating the presence of social exchange

The researcher will now discuss each of the four social exchange elements (Figure 1) within the context of the continuous improvement activity as exhibited in the research findings.

Feelings of Trust

Trust has been identified as a central component within a social exchange relationship (Blau, 1964; Brower *et al.,* 2000; Burke *et al*., 2007; Covey, 2006; Eisenberger *et al.,* 2010; Gomez and Rosen, 2001; Konovsky and Pugh, 1994; Molm *et al*., 2000). The findings identified that trust was present between all of the social exchange partners within the context of the continuous improvement activity. One example of how this trust manifested itself was in the way that managers delegated increasing responsibility and how employees willingly took on extra duties and responsibilities without any formal agreement in place (Brower *et al*., 2000). In line with social exchange research the trust that evolved took time to become established (Aryee *et al.,* 2002; Mitchell *et al.,* 2012), yet it was also evident from the findings that a degree of trust was implicit in the initial request to participate in the continuous improvement activity, and that this trust grew as the continuous improvement process progressed. As TLE noted: "it [Trust] develops over

time…you felt appreciated and believed your opinion mattered. Trust isn't something that comes with the job title; it has to be earned".

The literature notes that for social exchange to develop, the donor must trust the recipient to fulfil their obligations, but it is not necessary for these obligations to be specified (Blau, 1964; Cropanzano and Mitchell, 2005; Kular *et al.*, 2008; Saks, 2006). The findings were in line with this literature on the fulfilment of obligations, as when discussing the invitation from their managers to partake in the continuous improvement activity, all of the team leaders referred to the presence of an unspoken trust where the team leaders felt that they could be relied upon to apply themselves fully to the task in hand. As noted by MGRB: "trust is paramount. As a manager you have to ask yourself, are these people going to do the best possible job they can? If the answer is no, then you're in real trouble".

Sense of Loyalty

An element of the social exchange identified through continuous improvement involvement were the participants' displays of feelings of loyalty - reinforcing loyalty as a well-established component of social exchange (Ballinger and Rockmann, 2010; Mitchell *et al.,* 2012). This loyalty was most notable in the way that the employees worked long and hard to complete an important task for their social exchange partner and how they publicly voiced pride and confidence in each other's ability along with a sense of gratitude for the continuous improvement experience: "…in all honestly I wouldn't be where I am today only for MGRF" (TLD). When reflecting on the experience gained while working on the continuous improvement initiatives the team leaders expressed appreciation and loyalty to their manager for providing this development opportunity:

> I'm thankful for the chance that [MGRD] put my way and work hard to repay his
> faith in me. It [continuous improvement involvement] kind of got me out there,
> got me noticed and I got to make my mark. If I didn't get that opportunity I know
> for definite I wouldn't be in the team leader's job today (TLC).

This corresponds to the findings of Settoon *et al.* (1996) and Wayne *et al.* (1997) that when the relationships between the employee and the organisation, and the relationships

between the employee and their leader, are examined within the same study, it is the relationship with the leader that has the strongest influence on the social exchange.

Desire to Reciprocate

The literature highlights how benefits which are deemed to be outside of the norm are more likely to lead to reciprocation (Levinson, 1965; Lynch *et al*., 1999; Wayne *et al*., 1997). In this study the opportunity to become involved in a continuous improvement initiative represented something unique and different for the employees. This may have helped the social exchange to develop, leading to a desire to reciprocate. All the participants showed a sense of obligation and a desire to reciprocate in some way to their social exchange partner which may be attributed to gratitude for their involvement in the continuous improvement activity: "I can do this, I can contribute more…to be honest I owe MGRB and the company" (TLH). The sense of sharing was displayed by the team leaders in their willingness to take on extra responsibilities without compensation and how they gave freely of their personal time to complete their projects: "if there's a problem [with the project], I'd stay after shifts, I'd come in on days off if it needs to be sorted" (TLK). From a manager's perspective the desire to reciprocate resulted in them providing the team leaders with additional training opportunities and facilitating their introduction to members of the organisation's senior leadership team (Brower *et al*., 2000; Cropanzano and Mitchell, 2005; Erdogan and Liden, 2002: Levinson, 1965; Lynch *et al*., 1999). This led to feelings of loyalty and trust from their subordinates as highlighted above.

All research participants endorsed Cropanzano and Mitchell's (2005) contention that for the reciprocation cycle to begin one party must make the first move. In this research this initial move came from the manager's invitation to participate in the continuous improvement event. Support also emerged from the study for the proposal made by Wayne *et al.* (1997) and Lynch *et al*. (1999), that when a leader provides benefits above the normal requirements to employees, reciprocity comes in to play. As TLR highlighted: "I'll never forget what MGRF has done for me. She took me under her wing, put opportunities my way…I owe her big time".

214

These findings also reinforce the view that when knowledge and skills are transferred from the manager to an employee, the employee identifies themselves with the manager (Levinson, 1965). The managers believed this reaction was to be expected. As MGRB outlined: "you're after opening up a new world to them. They'll never forget it and will want to pay you back at every opportunity". Another factor highlighted in the social exchange literature as being an antecedent to reciprocation is the satisfaction that employees get from applying newly acquired knowledge (Lynch *et al.*, 1999; Wayne *et al.*, 1997), thereby encouraging psychological growth. All the team leaders expressed pride and delight at the experiences and learning arising from their involvement in the continuous improvement project and being able to apply this knowledge in their workplace. This resulted in them putting themselves forward to participate in new continuous improvement projects once the initial event was completed which may be reflective of their desire to give something back as well as their desire to evolve further in their respective roles.

Presence of Emotional Connection

An emotional connection goes beyond a normal social exchange and can be developed through personal investment, a shared history, and common goals (McMillan and Chavis, 1986). Sparrowe and Liden (1997) have noted that the quality of the social exchange relationship is reflective of the level of emotional support provided. Despite the fact that emotion is central to social exchange, the literature on social exchange has not really focused on it as a major element in the social exchange dynamic (Fisk and Friesen, 2012; Lawler and Thye, 1999). The current study found that an emotional connection figured where social exchange existed over a period of time, and may have been founded on the leader's ability to provide support, recognition, and personal development opportunities to their employees (refer to Figure 2). The emotional connection which was identified from the continuous improvement process was characterised by high levels of altruistic and empathetic behaviours which continued even after the formal manager/employee relationship had ended. It was also reflected in the reverential manner that the social

exchange partners used to speak about others' contributions, and how they viewed this as a long term relationship. TLE captured this bond very eloquently when he declared:

> I think you'll always have a special connection to the person who [initially] had a belief in you…saw your potential and encouraged you in your career. I often wonder if MRGB left in the morning, would I have the same connection with Lake Region, and in my deep reflections I think probably not.

The quote above is reflective of how the trust, loyalty and reciprocation which was initiated during the continuous improvement process developed into something beyond the normal employee/manager relationship. The emotional connection which is inherent in the recounted social exchange was revealed in the way the normal cost versus reward score keeping, which is an accepted part of social exchange (Levinson, 1965; Wayne *et al.*, 1997) did not take place, as the social exchange members regularly put the needs of their partner ahead of their own.

In the foregoing discussion the researcher has presented his findings on whether social exchange was present within the context of the continuous improvement activity. Social exchange was found to exist through the research participants' discourse regarding feelings of trust, loyalty, gratitude and reciprocity, which are all components of social exchange (Mitchell *et al*., 2012). There were however a number of relationships which generated social exchange that also appeared to create an emotional connection which would benefit from further exploration. Avenues to pursue could involve exploring if this was due to a particular anchoring event (Ballinger and Rockmann, 2010) or possibly connected to the duration of the social exchange.

Continuous Improvement Enablers of Social Exchange

The discussion will now move towards identifying the elements within the continuous improvement activity that contributed to the social exchange taking place, and to understand what this process involved in the context of the relevant literature. The thematic map (see Figure 2) illustrates each of the four main themes (leader support, improve daily work, employee recognition, and personal development opportunity) and

the supporting sub-themes that emerged from the findings. These are reflective of the key elements which enabled the social exchange to take place.
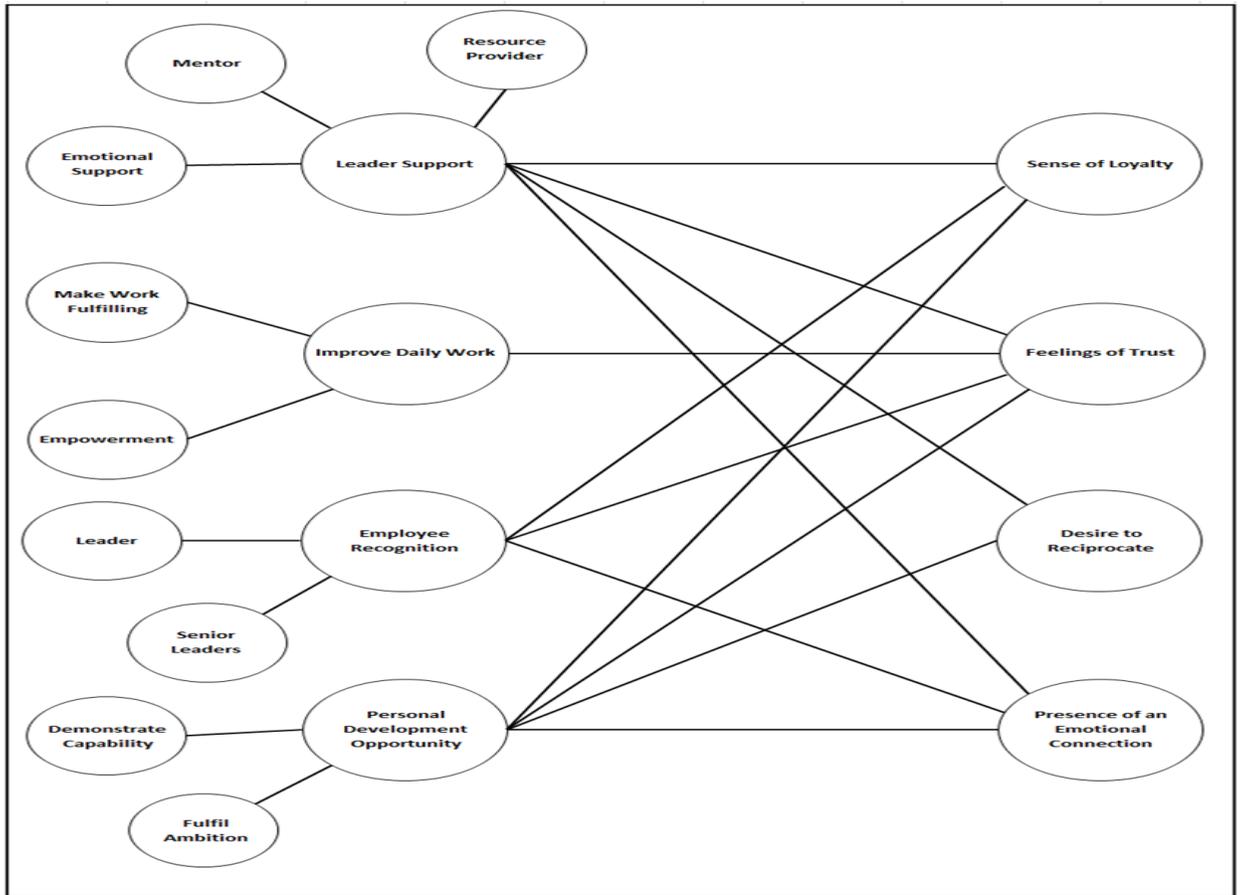

Figure 2 Thematic map illustrating continuous improvement enablers and connection to social exchange

Leader Support

Leader support emerged as one of the most important elements in establishing trust, which, according to Eisenberger *et al.* (2010) and Konovsky and Pugh (1994), is the foundation stone for social exchange to develop. This support was manifested in three separate but related areas. Firstly, there was the role of the leader in ensuring the availability of tangible resources such as the time, equipment, and technical assistance required to ensure that the team could achieve their objectives. This finding supports the

proposition advanced by Foa and Foa (1980) that providing resources such as equipment, training, and support has the potential to assist in creating a social exchange. When leaders provide resources, they are demonstrating their advocacy and trust in their people (Dulebohn *et al.*, 2012). This is likely to stimulate within their subordinates feelings of loyalty and a desire to reciprocate (Kahn, 1992; Sparrowe and Liden, 1997). Furthermore, when leader support followed along established social exchange norms (Cropanzano and Mitchell, 2005; Kular *et al.*, 2008; Saks, 2006), feelings of obligations were built up over time through a series of interactions between the parties. In the current study these feelings were evident in the way the team leaders acknowledged the importance of their manager's role in supporting their personal development, and the debt of gratitude and desire to reciprocate that they felt as a result. As noted by TLL: "I wouldn't be where I am without MGRB's support…I'll never forget that. It doesn't matter if I have ten things on my "to do" list, MGRB's will move up the list pretty fast".

The mentoring role that the manager played in sharing his knowledge and experience to provide direction and guidance to the team leader was also evident throughout the continuous improvement process, reinforcing the view that the mentoring role of the manager is one of the most powerful forms of social exchange (Whitely *et al.*, 1991). This sharing of knowledge was a factor in developing trust and loyalty, as was the manager's commitment to making himself available to mentor on a weekly basis for the duration of the continuous improvement project. Having a mentor or coach early in one's career appeared to be of particular relevance in the establishment of loyalty, and reflected the emotional connection which was built up over time: "you get to where you are in your career through the developments that you've had over the years and the key person you always look out for is the person who has developed you" (TLK). All the managers agreed with this sentiment and spoke of their personal experience of working with someone to whom they were loyal and how this loyalty was invariably connected to the role of advocate provided by that individual. This was primarily down to the mentoring and coaching roles provided by their managers. It is also worth noting that in some cases, the strength of this loyalty was such that it survived long after the manager or employee had moved on to a new position within or outside the organisation.

Finally the leader provided emotional support, in particular during times when the team leaders began to doubt themselves and their suitability to be part of the continuous improvement initiative. As TLI noted: "there was definitely like a kind of nervousness or a bit of a fear of failure on my part. Maybe a fear of 'am I good enough? Am I the right person for the job?' ". The findings suggested that the supporting role provided by the leader during the continuous improvement activity, particularly in providing emotional support at the early stages of the continuous improvement project is a key element in building a social exchange. This is in line with Kahn's work (1990; 1992) where he outlined how employees who are taking on new challenges need to have a high degree of psychological safety to allow them to fail without the fear of negative consequences.

The findings have identified that for leaders to build a social exchange and connect with their subordinates, providing support in the three forms outlined above (resource provider, acting as mentor, and provider of emotional support) is a fundamental requirement.

Improvement of Daily Work

Support was found in the findings for the proposition put forward by many researchers (Levinson, 1965; Lynch *et al.,* 1999; Nohria *et al.,* 2008; Wayne *et al.,* 1997) that providing employees with the opportunity to make changes and improve their own working environment generates employee satisfaction and increases their desire to reciprocate, which is a fundamental part of social exchange. In the context of the current study, social exchange emerged through people being enabled to make their work more fulfilling and being able to influence their working environment. Trust evolved as a result of this activity over time. TLO noted how: "giving me the responsibility for restructuring my own area was a massive vote of confidence from [MGRC] and is something I'll always be grateful to her for". Eliminating problems and improving elements of their work also appeared to provide the team leaders with a constant reminder of the trust their manager had placed in them.

The cumulative effect of this enhanced responsibility led to employee empowerment being recognised as a contributor to social exchange, because it involves the transfer of power from manager to employee (Conger and Kanungo, 1988; Zhang and Bartol, 2010). Both sets of research subjects expressed the view that when responsibility for decision making was delegated and employees were empowered to address work issues that concerned them through the continuous improvement process, these activities built trust (Eisenberger *et al.,* 2010; Gomez and Rosen, 2001; Konovsky and Pugh, 1994; Konrad, 2006). MGR noted that: "people, they see that you believe in them. They see that you trust them to do the right thing…you kind of build a relationship with them". Therefore social exchange developed as a result of work delegation and resultant empowerment through the continuous improvement initiative and the trust that evolved between the parties.

Employee Recognition

The recognition and pride that results from being selected from amongst one's peers is acknowledged as being a contributory factor to social exchange (Shore *et al.,* 2009). Lynch *et al.* (1999) and Wayne *et al.* (1997) have also suggested that when organisations, through their leaders, provide recognition opportunities for their employees, those organisations are investing in the development of a social exchange. This literature is in line with the findings from the current study that when employees were given the opportunity to engage with the continuous improvement process by their leaders, and were recognised for their efforts, this was linked to building the social exchange relationship. As TLS noted in relation to her leader: "I'm here over seven years and it was brilliant to finally get the opportunity ... it definitely motivated me to do more".

Cropanzano and Mitchell (2005: 890), when discussing how the social exchange relationship develops, use the analogy of climbing a ladder, "as one ascends, the rung for which one was originally reaching for becomes a foothold for one's next step. The goal achieved at one step (successfully grasping the next rung) provides the foundation for an even higher climb". This analogy is also relevant in the context of the current study. The first step on the social exchange ladder in this context was the recognition which arose

from being selected by the leader to participate in a continuous improvement event. TLN talked about how: "…it was great for my self-esteem…the man [MGRB] gave me a chance. I want to work hard for him". The leader therefore emerges as an important contributor to employee recognition and the development of a social exchange. The previous quote also reflects the sense of emotional connection that the employee felt towards their leader. The study also supported the findings of Sparrowe and Liden (1997) that in social exchange relationships, managers are likely to provide access for their subordinates to influential members of the organisation. TLK stated that:

> I was probably walking ten feet high going around the place that evening [after presenting his continuous improvement project to the SLT], you know, to get such praise from the Managing Director of the company.

What emerged from the findings was that the advocacy of the manager further enhanced the feeling of trust and loyalty of the team leaders as well as their sense of obligation to the manager for enabling this significant recognition opportunity. According to Sparrowe and Liden (1997), social exchange theory suggests that when it comes to employees developing social networks to support career advancement, it is their immediate leader who has the greatest influence on these opportunities. Involvement in continuous improvement initiatives as discussed here provided such an opportunity.

Personal Development Opportunity

Studies of workers (Cropanzano and Mitchell, 2005; Erdogan and Liden, 2002; Uhl-Bien *et al*., 2000) have found that personal development opportunities are seen by employees as a valued benefit bestowed by the leader or organisation which promotes their employability and leads to a desire to reciprocate in kind. The findings of this research extends the above literature to include the idea that there may be a lingering obligation to a supportive manager that can extend beyond the duration of the formal relationship. The idea presented by many researchers (Cropanzano and Mitchell, 2005; Konrad, 2006; Memon *et al*., 2016; Saks and Gruman, 2014; Shore *et al*., 2009; Witt and Broach, 1993) that providing development opportunities to employees can increase loyalty was evident from the discourse of the research participants. The development opportunities they

received from their managers were recognised by the participants as a factor in creating the emotional connection between them and their managers. When managers provide benefits outside of the norm for their subordinates (in this case personal development opportunities) it created within the recipient a sense of obligation to the giver (Wayne *et al.*, 1997; Witt and Broach, 1993). This altruistic behaviour also created feelings of trust and loyalty between the managers and their respective team leader in line with the views of Levinson (1965).

The social exchange that was present was linked to the manager providing the team leader with the opportunity to showcase their capabilities and potential through involvement in the continuous improvement process. The team leaders were unanimous in their support of this perspective, as TLL noted: "I'll always be grateful to [MGRD]…the involvement [in continuous improvement] has given me a career…It gave me the confidence in myself to realise my full potential". TLK also noted: "…not many guys that age get that opportunity [to get involved in continuous improvement] I would always see it as repaying him in every way I could".

As well as providing them with an opportunity to display their potential, the team leaders also viewed their involvement in continuous improvement as a forum through which they could pursue and fulfil their ambitions. When leaders assist their people to accomplish their career goals it creates a social exchange (Dulebohn *et al.*, 2012; Wayne *et al.*, 1997). As noted by TLA:

> I owe MGRA a lot…when I look back at the person I was, and the person I am now, I see two completely different people, [I] …would have been nervous and unsure, and had maybe a bit of self-doubt…Now she's [reference to herself] got experience, she's a lot more confident, a lot more ambitious and makes a much greater contribution.

In this section the researcher has presented the elements within the continuous improvement process which have the potential to initiate a social exchange. The four main elements that were found to be associated with social exchange were: leader support; work involvement; employee recognition; and the opportunity for personal

development. The discussion will now proceed to explore employee perceptions of engagement resulting from the continuous improvement and social exchange dynamic.

Employee Perceptions of Engagement arising from Social Exchange and Continuous Improvement Initiative Interactions

According to Truss *et al.,* (2014), when it comes to conducting research on employee engagement, the job demands-resource (JD-R) model is the most recognised and commonly used theory. However, the findings of this study support the Saks (2006) proposition that the foundation for employee engagement can be found in social exchange theory.

In the context of social exchange theory, reciprocation is the process by which an individual who receives a benefit feels obliged to return the favour, with increased engagement being the natural way for doing so (Cropanzano and Mitchell, 2005; Saks, 2006). The findings from the current study are in line with this literature as discussed in the preceding section and suggest that the social exchange generated during the continuous improvement initiative had an impact on perceived employee engagement.

that the employee could make a greater contribution to the organisation, and a higher discretionary effort on the part of the team leaders and managers (refer to Figure 3).
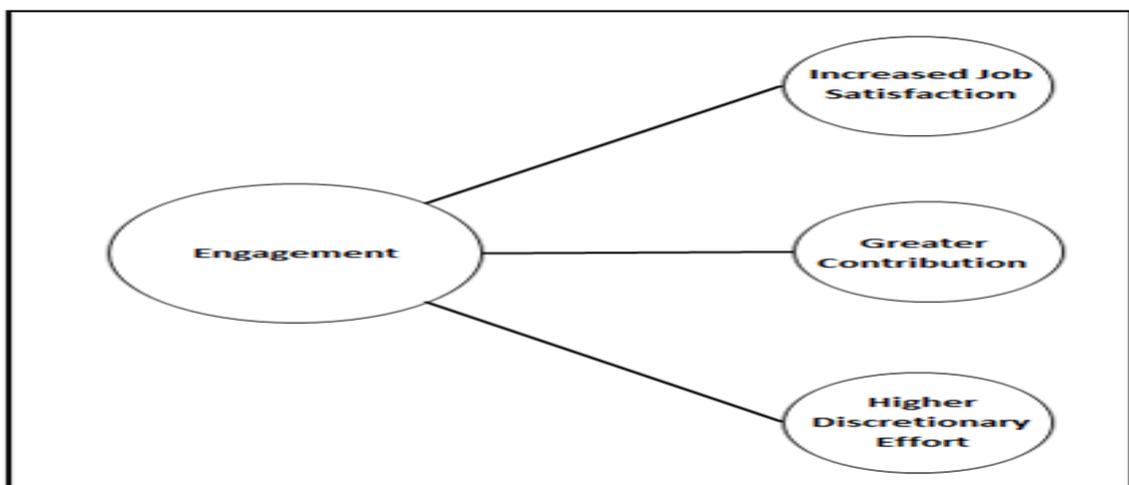

Figure 3 Perceptions of engagement connected to the social exchange process

Perceived Increase in Job Satisfaction

All of the participants referenced a perceived increase in job satisfaction as a result of participating in the continuous improvement initiative and the sense of social exchange that emerged. Satisfaction was illustrated through the participants' ability to make processes under their control more efficient through the elimination of non-value activities or through their suggestions being implemented, as a result of being empowered by their manager to do so. Referring to the sense of satisfaction she got from continuous improvement participation, TLH noted: "…it was fantastic; unbelievable" while she also displayed a desire or sense of obligation to share this feeling with others: "I'd love to be able to give that experience to every associate on the factory floor". Presenting employees with work that is meaningful (Kahn, 1990; 1992; May *et al*., 2004; Salanova and Schaufeli, 2008), and involving them in the design of new work systems leads to behaviours normally associated with highly engaged employees (Konrad, 2006). When it comes to securing commitment from employees, the greater the impact of the change on their immediate working environment the more likely they are to embrace it (Conway and Monks, 2008). In this study the participants expressed great satisfaction and pride in being empowered and being given the opportunity to improve their work and make it more fulfilling.

Perceptions of Making a Greater Contribution to the Organisation

The participants expressed the opinion that they were making an increased contribution to the company as a result of the knowledge and skills acquired during the continuous improvement process and the social exchange that took place. This supports research that has proposed that where a social exchange exists, employees are likely to become engaged with their work and apply considerably more energy and vigour (Bakker *et al*., 2008; Byrne, 2014; Kahn, 1990; 1992). The increased contribution was stimulated by the desire to reciprocate from feelings of loyalty to the manager, or out of gratitude for the opportunity offered, and revealed itself though the team leaders' increased understanding of how they could influence the success of the company. TLH noted that: "because now I have the knowledge, skills and confidence I think my eyes are always looking for

something to improve". The findings also provided endorsement for Levinson's (1965) theory on reciprocation where he noted that when leaders and organisations provide employee recognition in the form of training and development it motivates them to achieve their full potential.

Higher Discretionary Effort

Greater discretionary effort was demonstrated in the way that team leaders brought increased energy, effort, and initiative to their daily work, as a result of the social exchange which developed during the continuous improvement project. All the team leaders spoke of how they worked extra hours on the project without being mandated or invited to do so because of a sense of loyalty and obligation to the manager for providing the development opportunity, and the satisfaction they derived from participation. TLL highlighted how: "the idea of working my normal 40 hour week just didn't come into it… not so much pressure but a genuine interest". Another example of discretionary effort appeared to result from the managers trusting employees and empowering them to improve aspects of their work. TLB:

> If I'm at home and, and something pops into my head or I have an idea, yeah I jot it down straight away. If I get a light bulb moment, you know I'm not going to wait until Monday; I'll work on it there and then so I won't lose the inspiration.

Other discretionary behaviours presented by the team leaders included bringing forward improvement suggestions and requesting involvement in more continuous improvement initiatives. The findings add support to the belief that engaged employees are more likely to be excited about their work and display greater discretionary effort (Konrad, 2006; MacLeod and Clark, 2009; Nohria *et al.,* 2008). This finding gives sustenance to the proposition that when employees are engaged they are constantly looking for new challenges and ways to support their organisations' (Kahn, 1990; 1992; Salanova and Schaulefi, 2008) and, by default, their managers' goals.

In the section above, three previously recognised outcomes of social exchange in the literature that also emerged in the current study (perceived increase in satisfaction,

greater contribution and higher levels of discretionary effort) were presented and discussed. The researcher also used interview extracts to illustrate the complex interconnections between the social exchange being formed within the continuous improvement and its relationship with engagement.

Conclusions and Recommendations

Introduction

This section of the thesis will revisit the research question and research objectives. A summary of the key findings and insights into the topic being explored will then be provided. This will lead into the contributions of the work to both practice and research. As this is a professional doctorate the emphasis within this section will primarily focus on theoretically informed practice based contributions. Recommendations for professional practice and research will then be offered, as well as highlighting the research limitations. The section will conclude with some closing observations.

Research Question and Objectives

The research question for the current study was as follows: '*Can a continuous improvement initiative potentially create a process of social exchange which is conducive to stimulating employee engagement?'.* This research question resulted in the formation of the following research objectives;

1. To consider the existence of social exchange within the context of the continuous improvement activity.

2. To establish the elements within the continuous improvement activity that contributed to a sense of exchange and to identify how these elements contributed to the emergence of the social exchange.

3. To identify the perceived impact of the process of exchange for the employee with regards to employee engagement.

The above research question and objectives will now be discussed in light of the current study's findings as they relate to the interconnections and relationships between continuous improvement initiatives, social exchange and employee engagement.

Summary of Key Findings

This research revealed valuable insights into how social exchange takes place between individuals within organisations. It has also presented for the first time an example of how a continuous improvement process can be used within the workplace as a catalyst for a social exchange to develop, and explored the relationship between social exchange and employee engagement.

The research findings suggested that social exchange evolved through a continuous improvement activity and a number of interesting insights surfaced from this. While all the elements normally associated with social exchange such as loyalty, trust, and reciprocation (Eisenberger *et al.,* 1997; 2010; Gruman and Saks, 2011; Konovsky and Pugh, 1994) were found, what also emerged from the study was the presence in some instances of an emotional connection which appeared to be particularly related to the level of personal development achieved by the individual during the continuous improvement process. A summary of the findings relating to these elements will be presented below.

A key finding was that loyalty was identified as one of the strongest components of social exchange. Loyalty has previously been identifed as a component of social exchange (Ballinger and Rockmann, 2010; Mitchell *et al.,* 2012). This had particular significance for employees in the early stages of their careers with some of the participants expressing how, even years after the initial continuous improvement event, their loyalty to their then manager remained strong. In fact in some cases the loyalty endured after the manager moved to a new role either within or outside the organisation. The findings suggest this

loyalty was connected to the manager's role as a mentor, and that the manager acted as an advocate for those with the capability and ambition for personal development.

Trust which is an element of social exchange (Eisenberger *et al.,* 2010 and Konovsky and Pugh, 1994) also emerged through the continuous improvement process. What was interesting was how the continuous improvement activity facilitated an environment that enabled the gradual building of trust over time through the close interpersonal experiences of both parties. Key to establishing this trust was the manager's willingness to delegate authority and responsibility to their subordinate, allied with an on-going dialogue where opinions and perspectives were exchanged.

Within the context of the continuous improvement activity, reciprocation was deeply embedded. This supports the view that it is the benefits outside of the norm, in this case the invitation to participate in the continuous improvement process, that create a sense of obligation on the receiver to reciprocate (Levinson, 1965; Lynch *et al*., 1999; Wayne *et al.*, 1997). Before the reciprocation cycle can begin, one party has to initiate it (Cropanzano and Mitchell, 2005). What was noteworthy was the finding that in every case it was the manager's invitation to their subordinate to participate in the continuous improvement initiative that triggered the cycle. It may therefore be the person with the stronger power dynamic in the relationship that typically initiates the process of reciprocation - a concept not previously highlighted in the literature and which may be worthy of further exploration.

The bond/emotional connection identified between some of the managers and team leaders appeared to transcend the normal boundaries of social engagement. The findings traced the driver of this connection to the team leader's identification of their manager as the person who instilled in them a belief that they had the potential and capability to make a contribution. While previous researchers (Dulebohn *et al*., 2012; Lynch *et al.,* 1999; Shore *et al*., 2009) have identified the role that providing recognition and feedback plays in developing social exchange, this study suggests that it has the potential to be much more influential than previously stated.

The study also identified the elements within the continuous improvement activity that contributed to social exchange. These elements included leader support, the improvement of daily work, employee recognition, and the opportunity for personal development. From the findings it appeared that it was the contribution of the manager which was most fundamental in creating the social exchange and the continuous improvement process acted only as a support to the manager. Within each of the enabling elements in the continuous improvement process it was apparent that it was the manager's direct influence within the dynamic that drove the social exchange. This again reiterates the point made previously regarding the deep connections made between the team leaders and their managers in this study's findings. An important insight here is that for social exchange, and potentially employee engagement, to take place there needs to be a central figure driving this relationship and that this relationship evolves and builds over a period of time.

The final focus within the study was concerned with examining the impact of the social exchange with regards to employee engagement. The findings surfaced this linkage, and the connection to employee engagement was expressed through job satisfaction, contribution to the organisation, and discretionary effort. These outcomes are all found in the employee engagement literature (Kahn, 1990; Konrad, 2006; Saks, 2006). The trust and loyalty which developed appeared to be linked to the manager's role in presenting the continuous improvement involvement as an opportunity and supporting the team leader though the process. The trust and loyalty established with this invitation to participate, (along with the recognition that followed it) appears to have initiated a desire or sense of obligation within the team leaders to reciprocate to the manager. This resulted in the team leaders making a greater contribution and applying higher levels of discretionary effort towards the goals of the organisation. They also reported increased job satisfaction as a result of involvement in the continuous improvement activity.

In this section the researcher has outlined the key findings from this study. The presence of social exchange was found in the form of loyalty, trust, and reciprocation which could be linked to the continuous improvement activity. However while the importance of recognition and feedback in social exchange is well established (Dulebohn *et al*., 2012;

Lynch *et al.,* 1999; Shore *et al.*, 2009), in this study a bond/emotional connection between some of the managers and team leaders emerged which appeared to transcend the normal boundaries of social engagement. An important finding was that it is the manager who plays the critical role in establishing the social exchange, and the continuous improvement initiative itself acts as a vessel to enable the social exchange process to occur. Finally a connection between the process of social exchange and employee engagement was also identified. This perceived engagement was expressed in terms of job satisfaction, contribution and reported higher levels of discretionary effort, all of which are in line with established engagement theory (Bailey *et al.*, 2015; Kahn, 1990; 1992; May *et al.*, 2004; Rich *et al.*, 2010; Rana *et al.*, 2014).

Recommendations for Practitioners

The first recommendation for practitioners from this study relates to the debate over where responsibility for managing the continuous improvement function within organisations should reside. While traditionally this has rested within the quality or engineering functions (Hines *et al.*, 2004; Lam *et al.*, 2015; Olian and Rynes, 1991) the record of successful implementation is poor (Atkinson, 2010; Baker, 2002; Bhasin, 2012; Sim and Rodgers, 2008). The findings from this study would suggest that it may be time to take a more radical approach to continuous improvement projects. Because the barriers in implementing continuous improvement are primarily due to human rather than technical issues (Bhasin, 2012; Hines *et al.*, 2004) it would be very interesting to see what would happen if organisations gave responsibility for managing their continuous improvement program to the human resources department and whether this would lead to more successful outcomes. The findings of this study would support such a concept as continuous improvement is a natural fit with human resource activities such as human resource development. This is particularly the case with the social exchange enablers identified in this study such as employee recognition; employee development and the leader's role as a mentor - all of which are intrinsically linked to human resource development.

Tied into this first recommendation is the suggestion that organisations include continuous improvement as part of their employee engagement program. As outlined earlier in this section not only does continuous improvement involvement have the potential to create a social exchange that may be linked to employee engagement, it can do so in a very cost-effective manner. In this study, several of the team leaders recounted examples of improvements that they had been involved in, which resulted in substantial savings for the organisation. The knowledge they acquired was not just related to the continuous improvement tools and systems they used, but also included teamwork, time management and presentation skills. Providing training for employees is a well-established method of engaging employees (Saks and Gruman, 2014) and organisations should be aware of the opportunity that continuous improvement involvement provides for employees to develop and learn in a supportive environment.

Many organisations when starting out on their continuous improvement implementation journey make the decision to recruit external continuous improvement consultants to assist in implementing their continuous improvement program because they do not have the necessary expertise in-house (Holmemo *et al*., 2016). While this strategy may be successful in removing cost and adding value, the findings of this study show that when an organisation's managers play an active part in continuous improvement initiatives it can result in a lasting social exchange taking place. This is significant because whilst a social exchange may have developed between the consultant and the organisation's employees during the continuous improvement process, this social exchange is lost once the consultant's contract period expires. Practitioners need to understand the psycho-social gap that continuous improvement involvement bridges and how this can enable organisations to tap into the full potential of their employees, particularly those at the front end of the organisation. Therefore continuous improvement programs should have a strong management presence, with the role of consultants concentrated on the transfer of skills and knowledge.

The findings of the study have particular implications for employee engagement and are related to the point made above. Organisations, when developing employee engagement initiatives, should recognise the importance of having a central figure and the

interpersonal relationships that need to be built up within the dynamics of employee engagement. The findings of this study reinforce the researcher's belief that employee engagement is very much "a contact sport" wherein participants must be carefully selected to maximise the potential of developing good relationships and social exchange processes between stakeholders.

Theoretical Contribution

Although social exchange theory has been highlighted as an appropriate framework with which to understand employee engagement (Saks, 2006) it has to date not been explored sufficiently in the employee engagement literature. In this study, the researcher has identified that social exchange is a fundamental element of employee engagement, and by doing so has validated Saks (2006) proposition that employee engagement can be more clearly understood in terms of social exchange.

Building on Kahn's (1990) work, Saks (2006) investigated the relationship between social exchange and employee engagement which identified a potential relationship between social exchange and employee engagement. However Saks (2006) did not explore how the social exchange could be activated. This study has substantiated Saks (2006) suggestion that employee engagement can be better understood in term of social exchange. It had achieved this by firstly identifying that social exchange in actually central to an understanding of how employee engagement is created, and secondly by presenting involvement in continuous improvement activities as a major catalyst to stimulating the social exchange and employee engagement dynamic.

This contribution goes further, however, in that it identifies that it is the behaviour of the stakeholders and in particular the manager during the continuous improvement process that is the most significant factor in the emergence of the social exchange. The stakeholders' involvement enabled the elements within the continuous improvement process which act as a catalyst for the social exchange to emerge. For example, when the team leaders were selected and empowered to improve their own work by their manager it demonstrated trust on the manager's behalf. Consequently the team leaders were more

appreciative of their managers for placing their trust in them and for providing the opportunity, recognition and support. This in turn led to team leaders being loyal and trusting their manager, and the perception that they had a greater desire to reciprocate for the benefits managers had provided. The continuous improvement process therefore acts as a vessel for the social exchange to emerge through stakeholder interactions, which in turn drives the perception of increased employee engagement. Social exchange is concerned with the forming and nurturing of relationships (Eisenberger *et al*., 1990; 1997) and this study has identified that it is not the continuous improvement process itself which develops the social exchange but rather the stakeholders within the process thereby contributing to the existing body of knowledge on social exchange.

This study also contributes to the scarcity of information on the actual social exchange process (Liden *et al.,* 1993) by focusing on the dynamics of social exchange between employees and their managers. Importantly, the findings of this study suggest that when trust and loyalty exist between the social exchange partners, there is no requirement for the 'score keeping' rules of exchange normally associated with social exchange (Cropanzano and Mitchell, 2005; Gouldner, 1960).

While many studies in the past on social exchange have hypothesised about how obligations are built up over time between parties who are in a reciprocal relationship (Ballinger and Rockmann, 2010; Cropanzano and Mitchell, 2005; Saks, 2006; Settoon *et al*., 1996; Wayne and Green, 1993), this exploratory study is one of the first to shine a revealing light inside the so called 'black box' of social exchange (Cropanzano and Mitchell, 2005), and provide examples of how social exchange is actually activated and nurtured. It demonstrates, for example, how being selected for participation on a continuous improvement process created a sense of obligation on the part of the team leaders and led to a perception that their contribution and discretionary effort had increased.

Methodological Contribution

When it comes to investigating employee engagement, the majority of studies have adopted a quantitative approach. A fact supported by a review of the employee engagement literature which was carried out by Simpson (2008), where only one of the twenty studies featured was qualitative in nature. The researcher finds this situation surprising as it is generally accepted that qualitative studies allow researchers to investigate topics in which different levels of meanings need to be explored, something which can be difficult to do with a quantitative study (King, 2012). The current research has demonstrated the value of adopting a qualitative approach to the study of employee engagement by surfacing the interconnections between employee engagement and social exchange as well as identifying how continuous improvement involvement triggers social exchange. The qualitative approach has deepened understanding of the complex nature of employee engagement.

Practical Contribution

The first contribution of the study to practice is that the research has responded to the challenge for further investigation into developing workplace interventions which can improve employee engagement (Saks, 2006; Saks and Gruman, 2014). Engagement strategies proposed by many researchers (Markos and Sridevi, 2010) suggest improving communication and performance management systems, while also aligning the organisation's systems and goals to create an engagement culture. While all these measures are laudable, the use of continuous improvement as advocated in this study presents a more employee-centred, action oriented approach which has the potential to win the "hearts and minds" of employees.

The next contribution concerns what Roche and Teague (2014: 278) have described as the 'internal tensions and contradictions' that organisations face between cost cutting and engaging employees. Because engagement promotion activities, while desirable and often necessary, are often perceived as a cost by organisations, the engagement budget is likely to be impacted at times of fiscal constraint. The current study demonstrates how

continuous improvement, which is a cost-conscious activity, can be used as a cost-effective process to stimulate social exchange and potentially employee engagement.

Another theoretically informed contribution which has application for practice is that the research has identified that participation in continuous improvement can be a positive and enjoyable experience for the employees themselves. Previous researchers have concentrated on how the continuous improvement process can enable organisations to reduce their business costs and improve competitiveness (Achanga *et al.*, 2006; Bicheno and Holweg, 2008; Hines *et al.,* 2004; Shaw and Ward, 2003; Womack and Jones, 2010), and have mainly focused on organisational level outcomes. This research has identified the individual and interpersonal level outcomes that may result from participation in a continuous improvement process. In line with Kahn's (1990) theory that engagement is associated with psychological meaningfulness, psychological safety, and psychological availability, the continuous improvement process provides a social exchange environment where trust, loyalty, reciprocation, and an emotional connection can develop between employees and their leaders. This can potentially lead to employees having increased job satisfaction, making a greater contribution to the organisation and delivering higher levels of discretionary effort - all indicators of employee engagement.

At a practice level this is important as it highlights the positive outcomes of participation in a continuous improvement initiative at an interpersonal level and at the level of the individual, which have important implications for human resource related activities, and for the organisation more generally, through workers' psycho-social needs being met.

Finally this research has identified the manager as the significant factor in engaging employees. This has particular importance for organisations when developing engagement strategies, as traditionally responsibility for engaging employees has rested primarily within the human resources function. Going forward, managers need to be educated and trained to understand that employee engagement is very much a 'contact sport' in which they are the key players.

Research Limitations

A potential limitation in this study is the use of the critical incident technique as the main data collection method. Because of the time lag between when the critical incidents took place and the interview, there is a danger of recall bias where the subjects might reinterpret these events (Chase, 2005; Gremler, 2004; Johnston, 1995). However it should also be noted that there is an alternative view put forward by Chell (2012) who suggests that because the participants view these events or incidents to be of critical importance, their recollections are therefore likely to be accurate. This may be the case in this study as the events being investigated were seen by both sets of interviewees as being of major importance to the organisation and to their own personal development. It is also important to point out that with regard to the critical incident technique that the researcher preselected the critical incident to be used. There may have been bias here in that the researcher may have inadvertently chosen a critical incident that had primarily positive connotations. Had the critical incidents been identified by the participants themselves where both positive and negative viewpoints were expressed, further insight into the dynamics of social exchange may have surfaced.

A further limitation is that by using purposeful sampling to select the team leaders in the study, the researcher may have introduced bias through his role as a manager within the organisation as this meant that he had a specific perspective of the organisation and this may have influenced decisions around candidate selection. While the request for volunteers was managed through the human resource department, the researcher did select participants from the list provided to meet a set of criteria.

Another legitimate and related concern is the danger of insider bias, particularly in a study conducted by a single researcher. When the researcher is well known to the research participants, or holds a position of power within the organisation, it may affect how the participants respond. This is particularly relevant as the researcher has a well established reputation as someone who is a very strong advocate of the transformational power of continuous improvement, something which may have contributed to the overwhelming positive response from the research participants. If the interviews had been carried out by a third party with the participants informed that the interview transcriptions

would be presented to the researcher using pseudonyms, the question could be asked as to whether their contributions would have been the same (Dey, 2003). To attempt to lessen the impact of insider bias, the researcher maintained a reflective log for the duration of the research study. This proved to be very effective as it enabled the researcher to question his perspective as a manager and to make adjustments as to how he conducted the research process. One such case was the development of the framework used to create the critical interview guide which required several iterations carried out over a number of months (refer to papers 3 and 4). The researcher attempted to develop questions which did not reflect a 'managerial' undertone in their design.

The strength of single case studies are that they facilitate a deep understanding and richness of data. Concerns about a single study are addressed by Stake (1995), whose contention is that case study research is at its best when attempting to explain the complexity of a single case. It is about examining its peculiarity and complexity in order to understand its activity within important circumstances. Siggelkow (2007) argues that a single case study can also be used effectively to build on existing theory by pointing out gaps and attempting to bridge them, which in this case is discovering the nature of the relationship between continuous improvement activity and social exchange and how this may stimulate employee engagement. It also provides an example for readers to imagine how applicable it might be in other settings. This view is supported by Donmoyer (2000) who suggests that the real value of single case studies is in asking questions, rather than answering them. However, it must also be noted that single case studies do not allow for the level of credibility associated with multiple case studies where research objectives can be cross-referenced in a number of different settings.

Avenues for Future Research

Social exchange theory explains how people engage in sequences of independent actions that create obligations with other individuals, and it is therefore founded on the belief that exchange in a relationship has to be of mutual benefit (Blau, 1964; Eisenberger *et al.,* 1997; Gouldner, 1960; Homans, 1958; Mitchell *et al.*, 2012). However, consideration needs to be given to just how reciprocal the social exchange relationship is - specifically

with regard to the perceived benefits of social exchange. For example, whether the benefits are distributed equally between the participants involved, and if they are found not to be, does this damage or indeed terminate the social exchange. The findings which emerged from this research would suggest that while at the establishment of the social exchange relationship the balance of power is with the senior social exchange partner, it is in fact the junior partner who is often the main beneficiary of the social exchange. Research is therefore needed to explore what influence if any the power position of the social exchange initiator, in this case the manager, has on reciprocation. In addition, research could examine the distribution of benefits and the resultant outcomes from that distrubition.

While conventional wisdom suggests that social exchange evolves slowly over time (Mitchell *et al.*, 2012; Molm *et al.*, 2000), Ballinger and Rockmann (2010) suggest that events which have particular significance for an individual can fast track the normal social exchange process and create deep and lasting exchanges. Based on concepts drawn from research on emotion and memory they argue that a social exchange can develop rapidly when an individual is highly dependent on another to meet a particularly important objective or goal. Ballinger and Rockmann (2010) refer to instances where such exchanges occur as anchoring events. The findings from this study, specifically with regard to social exchange, raise the question as to whether the continuous improvement process can be used to trigger anchoring events, and this area of inquiry may be worthy of further investigation.

In this study the researcher has demonstrated the effectiveness of the critical incident technique to deliver rich and meaningful data. Future research however should consider elements of both engagement and disengagement when utilising the critical incident technique. Employing this approach may shine more light on the relationship between social exchange and employee engagement and in particular on the potentially 'darker' side of employee engagement.

Another avenue worthy of consideration for future research would be a wider study to investigate if the positive findings which emerged from this study could be replicated in other organisations. There is huge potential for research to determine the generalisability

of the findings with regard to the relationship between continuous improvement, social exchange and employee engagement. It would be interesting to explore what contextual factors may impact upon the dynamics of these concepts. For example in the current study the manager was regarded as being pivotal in the continuous improvement, social exchange and employee engagement dynamic but in other organisations the manager's role may be less substantial and potentially the peer group may be more influential.

Finally, there is also an opportunity for future researchers to explore the application of this research to other levels of employees. In particular, attention should be given to front line employees, as these workers are directly involved in operational processes and make up a significant proportion of the workforce. Gleaning a better understanding of what engages them and how they are engaged, may be fruitful at both an individual and organisational level.

Conclusion

The review of the relevant literature in the area of social exchange and employee engagement underpins something which we intuitively know: engaged employees can give organisations a competitive advantage (Macey and Schneider, 2008; MacLeod and Clark, 2009). Despite this, for the majority of organisations the prospect of having a fully engaged workforce remains nothing more than a pipe dream. This study makes an important contribution to our understanding of employee engagement by exploring how a continuous improvement initiative has the capacity to act as a catalyst for engagement through the enactment of social exchange.

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Section 4: Reflective Log Extracts

Introduction

Throughout the DBA process I have been very disciplined in maintaining my reflective diary with updates entered on a bi-daily basis. Having worked in senior management roles for over twenty years I fully understand the need for managers to be self-aware (Goffee and Jones, 2001). I also believe that it is only by constantly challenging our thinking and internal biases through the reflective and reflexive process (Costley *et al*., 2010) that we can improve.

June 2013 Induction

Tomorrow June 20th I take the first step on the road towards achieving my doctorate. For the previous six months I've agonised over whether or not this is the right decision. While those close to me say I'll be well able for it, there are others whose opinions I hugely respect who caution me as to just how difficult this process will be. Eventually it is the dreaded prospect of retirement in eight years' time that drives me forward. After seeing too many friends wither when they retire I am conscious of the need to fill the void left by work with something both challenging and positive. Successfully completing this DBA would supplement my 40 years of industrial experiences and may lead to opportunities where I could share these learnings with the next generation of leaders. I cannot think of anything more fulfilling from a professional viewpoint.

I finished work this evening with a chorus of *"Good luck tomorrow"* and *"You'll be fine"* ringing in my ears. It's great to receive such positive messages of support from my family, friends, and colleagues. While this renews my confidence it also brings a certain pressure as I feel I'm carrying their hopes and dreams, as well as my own. I got all my assignments read twice as planned. Most of these I really enjoyed and could relate to. I'm really looking forward to tomorrow and can't wait to meet my fellow classmates.

D day has finally arrived. I receive more good luck messages by text which makes me think how great it is to work with brilliant friends who are more than just work colleagues. When

I arrive at reception at WIT it reminds me of being outside the delivery room in a maternity hospital. Once the introductions are made the tension lifts, I'm really surprised and delighted with how open and honest people are. Our tutors Felicity and Denis outline what is in store for us over the next four years. In the afternoon Tom O'Dwyer, who is three years into his own DBA, comes along to share his experience. This is a great idea as Tom reassures us that it is all a matter of application and that there will be a few bumps along the way. We finish with the instruction to think about our research topic which we will discuss tomorrow. Later I mail my friends with a key insight. These people are just like me, they are not geniuses - just people with a track record of hard work and achievement with whom I share a common goal. I hope tomorrow is just as exciting.

It was, another great day. I like the way we were paired-up to present our partner's research topic as it was a great way to get to know each other. If I'm to get through this process I'm going to need my fellow students' support. After struggling for a while to come up with a research question I took Felicity's advice of looking at what excites me. Then amazingly almost out of nowhere I think I have a research topic. In fact it's very simple, something that I've struggled to understand my entire career and maybe now I can find out more about it. In a nutshell I'm posing the research question:

> *If research has proven beyond all doubt that engaging and motivating front line employees leads to improved job satisfaction, higher morale, increased productivity etc. why then are most organisations failing to do so?*

My research objective is: To develop a framework that will measure front line engagement and which can be used as a tool to improve front line employee engagement. However I'm not 100% sure. Even at this early stage in the process I'm realising that despite all my practitioner experience there is just so much about engagement that I just don't know. But then again that's why I signed up.

We are all amazed at how Denis and Felicity regardless of the research question posed have an immediate reservoir of key papers for the student to focus on initially. The workshop has been really successful with great encouragement and support, and peppered with some very

good advice e.g. write often and early, record everything you read, write a short summary of papers read (what you liked, disliked, and research method used), use journals best suited to your interest/business. A South East network has already formed and we intend to meet up before the end of July. Already I realise that it is only by looking back, you can see that true learning has taken place. To be honest because in work I am seen as a subject matter expert, over the past few years most people don't challenge my thinking. Regardless of this study on reflection I must make it my business to include people in work related activities that have different perspectives which may challenge my views. Our first assignment is due in by 30th August. My aim is to have a first draft completed by August 1st so that I will be able to work on the next group of papers as soon as I receive them. My study time is >6 hours on Saturday and Sunday, >2 hours Monday, Tuesday, Wednesday, Thursday with Friday being my only day off.

July – December 2013

I got my learning log up to date and cleared out the spare room to make it the DBA HQ! It makes sense to have a study room with no distraction. I'm finding the quality of study time is more important than the quantity. I begin writing up the research topic rationale. It's great to get back writing, and I'm doing well until I get confused between the research question and research objectives. Note to self: I need to adopt a more "studied" approach. However this is proving difficult as my natural tendency is to get stuck in and move work on as quickly as possible. Going forward each time I get a new paper my strategy will be to give it a quick read first to establish if it is relevant to my needs. If it is, then in the second reading I will be much slower, taking care to use a highlighter to mark key text, I'm also going to use the summary template provided by Felicity to note what type of methodology was used and other information which might be useful at a later stage.

Sunday 28th July**.** I spent all day today revising my paper. Denis and Felicity's advice was spot on. It's amazing how the process of having to distil my research objectives down to fewer than 100 words can dramatically improve the overall paper. It forces you to remove anything that is superfluous. Now I understand what the French Philosopher Blaise Pascal

(1941) meant when he said *"The present letter is a very long one, simply because I had no leisure to make it shorter"*.

What I learned today is that regardless of the fact that academic papers fall into one of two groups (those which are a joy to read and those which are a struggle) they all have value and need to be judged on content rather than style.

I started reading the assignment papers but found them extremely difficult to understand. As I read each paper I have my laptop opened on the Google page so that I can check out words that I don't understand. I've also learned that there is a huge difference between reading and understanding a paper. To compound the situation I'm also struggling to fully understand the expectations of this assignment.

January – June 2014

Wednesday 1st January. I head into year 2 with some apprehension. The DBA is proving to be more difficult than I had ever imagined. It bears no resemblance to what was required when I was doing my MSc. The fact that I am a pragmatic person by nature is definitely affecting the need to fully understand the theory behind some of the research concepts. I'm naturally programmed to get to the heart of an issue or subject by the shortest route possible. I think I got away with that when I completed my MSc but this is a different ballgame. The DBA is concerned with getting to the fine detail, and in order to do that you have to follow the data. This is definitely a lesson learned and is something I will have to work hard to address.

Sunday 14th April. I've really struggled over the past three months. This methodology assignment is going to be a major challenge and if I get past this I should be able to go the whole way. My attitude is just to take it one assignment at a time and I'm finding my confidence does grow every time one is completed. I keep reading the papers but it's just not sinking in. Finally I realise that I need some basic level of understanding of the subject in order to comprehend the academic papers. Using Youtube as a source to get this basic understanding turns out to be an inspired move as it gives me that info. Just a pity I hadn't thought of it before.

252

Sunday 1st June. Work is hectic since the recent acquisition and my own role is likely to expand to include responsibility for some of the International sites. It looks increasingly like the DBA will have to go on hold. I have communicated this to the DBA Program Co-Ordinators who are keen that I complete my current assignment which is exactly what I intend to do.

Thursday 5th June. I met with Denis Harrington (Head of Department) and Sean Byrne (Program Co-Ordinator) at Waterford Institute of Technology today with the intention of packing in or putting on hold my studies due to work commitments. Both encouraged me to proceed with the DBA if at all possible as it would prove very difficult to return to it at a later stage. I was very impressed with the fact that both had taken the trouble to review the assignments I'd completed to date which they said were of a high standard. I left buoyed by their confidence in me and determined to do everything possible to get to grips with assignment 3. Despite having put a lot of work into this assignment I'm still confused. I've decided the best approach is to revisit my Research Question. I must have this very clear before I can move on further.

July – December 2014

Saturday 4th October. The conceptual paper presentation went well today. I got some really positive feedback which is a great boost. To date I've gone very wide and only a little deep. From now on it's going to have to stop going off on tangents every time I read something that really excites me but has absolutely nothing to do with my study. This will be a new challenge for me. I met Jenny Hennessy who is going to be one of my supervisors. I'm really impressed with her energy and enthusiasm.

Tuesday 23rd December. The paper continues to get stronger with most of the social exchange theory removed. I've created another new conceptual framework. Unfortunately I had to dump the previous engagement framework but the bottom line is it just doesn't work with the new research question. I need to come up with a framework that shows employee engagement as an outcome of social exchange.

January – June 2015

Thursday 9th January. Celebrated my 59th birthday by getting the final revision of my conceptual paper off to Jenny for a final review. I have to admit I'm really pleased with how resilient this study has made me and how much work I've put in since I started. In the past week alone while I have been in Malaysia for work I didn't read any non-academic papers or books. I just studied at every opportunity in the airport, plane and hotel. My routine was going to bed at 22:00, getting up at 04:00 and studying till 07:30 when I stop for breakfast. Go to work at 08:00 and finish at 17:30. Dinner at 18:00 and study from 19:00 to 22:00. I did this every one of the seven nights I was away.

July – December 2015

Sunday 16th August. I got the third draft of Paper 2 finished over the weekend. One thing I'm really pleased with is how I've finally cracked the academic referencing. I'm also continuing to learn more about how the research process works. Up to now I've been looking for a silver bullet to answer the research question posed. I need to be more patient and remember that I'm still only halfway through the program.

Friday 1st October. I had a really tough day at the Paper 2 presentation. I had gone in confident but left demoralised. To be honest I was found out, I didn't fully understand what I was trying to present. On the plus side I got very good feedback. I must be clearer on setting boundaries around the study. I keep getting social exchange and engagement theory mixed up. This is fundamental to my study and I can't move forward until I am clear on both, and their relationship to each other.

Sunday 25th October. Paper 2 completely reworked in line with examiner feedback. My research questions and objectives are clearer now. I finally understand that I'm not just looking for the presence of social exchange I'm looking for it in the context of the continuous improvement activity. Really critical learning. I also took their advice to look at using critical incident technique for data gathering rather than storytelling. While there is something exciting about storytelling I prefer the critical incident technique because it will allow me to dig really deep and hopefully deliver the context-rich data (Chell, 2012;

Douglas *et al*., 2009; Gremler, 2004) I need to find out if continuous improvement initiatives have the potential to simulate social exchange and affect engagement.

January – June 2016

Sunday 31st January. The last few weeks have been hugely frustrating, particularly in writing the pilot interview questions. Trying to understand the differences between social exchange and employee engagement is really testing me. I followed Jenny's advice to forget about writing the pilot interview questions and go right back to my research objectives. I spent a full two days deconstructing social exchange and employee engagement theory, and it was time very well spent. I now fully understand what I am aiming to achieve and setting the questions will be relatively easy.

Friday 18th March. Submitted Paper 3 today on deadline. I'm very proud of this paper, particularly the work done in compiling the interview questions. Thanks to Felicity's and Jenny's direction I've learned that every question I ask must have a clear linkage to answering at least one of my research objectives while also being grounded in theory. After several iterations I eventually created an excellent interview template which captures the research objectives, the theory underpinning the questions and my rationale for asking them. This process has been a huge learning for me and shows that conducting interviews is simply not a matter of coming up with a set questions out of your head. I'm surprised I haven't seen a similar template in any of the research books I've read.

Wednesday 8th June. I am absolutely thrilled with some of the gems of social exchange papers my latest lit review has turned up. Despite all my best efforts I missed them three years ago but I'd say part of it is down to the deeper understanding I now have of the subject. I'm also delighted with how all the interviews went. When I think back to the mistakes I made with the pilot interviews, particularly talking too much and not allowing the natural silences which are part of normal conversations to develop, I am shocked. This is a major learning for me both inside and outside of work.

Friday 17th June. Had a really productive meeting with Jenny this morning. When I showed her my revised set of interview questions she really challenged my thought process.

The fact that I could articulate my logic and that Jenny was in agreement shows just how far my knowledge of the subject and process has improved. I have also discovered the value of using a thematic map to gather my thoughts while they continue to evolve. Luckily I have access to an electronic white board which I have placed in my office. This turns out to be an inspired move because I find myself constantly reviewing it to see if it matches the information and thoughts I have gathered or is there something in the map that intuitively I know just does not make sense. I also bring in my colleagues on a daily basis so that I verbalise my thought process and request them to challenge me. The good thing about using the white board is that it allows me to print a copy before I amend it.

July – December 2016

Thursday 6th October. My Paper 4 presentation to the internal and external examiners went really well with no rework required. Undoubtedly this is because my understanding of the subject is deeper. I was actually surprised when putting the presentation together to discover my data analysis took over five months which included three weeks off work to complete it. On reflection I believe it was developing the thematic maps which facilitated the breakthrough in understanding as it forced me to discover what were the fundamentals which underpinned the analysis of this study. What the maps enabled me to do was look at the relationships between the three main components (continuous improvement - social exchange–, social exchange – employee engagement, continuous improvement – social exchange – employee engagement) separately and they also allowed me a high level perspective which was pivotal. This again was significant learning for me as the themes started to emerge from the interview transcripts. On a daily basis I started to see new patterns and potential relationships develop, while others faded. It was through using this iterative process that my final themes emerged.

Thursday 8th December. All the jigsaw pieces assembled over the past four years are finally coming together. Part of the feedback from Jenny was concerned with the merits of leaving the word potentially in the Research Question. I got a tremendous kick out of the fact that after debating with Jenny for over 30 minutes she fully agreed with my reasoning. If I didn't know my stuff 100%, Jenny would have exposed any weakness in my argument.

January – April 2017

Friday 6th January. It's amazing how my thinking has developed over the past three years. This is demonstrated in how my research objectives have evolved along with my understanding. For example in Paper 3 one of my objectives was "To consider the extent of social exchange within the context of the continuous improvement activity." However one year on this had changed to "To consider the existence of social exchange within the context of the continuous improvement activity". This was a critical amendment because my study is not concerned with the quantity of social exchange within the continuous improvement process but to discover if it is present at all.

Final Thoughts

While the past four years have been a huge rollercoaster of emotions for me, the one constant has been that of continued learning. The DBA process is incredibly demanding and requires huge resilience on the part of the student if it is to be realised. The fact that it is organised in sequential modules is very important for two reasons, it allows the student to focus his full attention on one specific assignment at a time. Once an assignment has been completed, it provides a major confidence boost with which to face the next hurdle. As mentioned in the log the appointment of the supervisors was pivotal for my being able to complete the program. While application and hard work are essential requirements, so is direction. This is what both my supervisors provided.

The study has already had a positive impact on my working life. Because I am now recognised within the company as being a subject matter expert on employee engagement in May 2016 I was selected to become a member of a global team tasked with identifying a culture and set of values for Integer. Achieving the DBA will be a major life achievement for me and it will definitely shape the way I think and act in all aspects of my life in the future. As well as giving me a greater appreciation for learning, the DBA experience has also helped to make me a more rounded person who is open to new concepts while also more inclined to challenge conventional thinking. One good example of this is how for the first three years of this study my default position was positivism, something which may be

related to me working in a regulated environment where all decisions are based purely on facts, and opinions on their own are worthless. Based on Jenny's feedback I have finally understood the importance of language choice in my study and the need to appreciate that others may have different interpretations.

In the words of Confucius;

"To know what you know and what you do not know, that is true knowledge."

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