Lean Thinking

ORGANISATIONAL CULTURE - ENABLERS AND INHIBITORS FACTORS FOR THE EFFECTIVE IMPLEMENTATION OF LEAN

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A B S T R A C T

Lean systems are used effectively in various organisations to improve productivity. Although Lean is a thoroughly discussed method within industries, there is a scarcity of research about cultural aspects and organizational culture related to Lean Implementation (LI). The paper aims to identify and explore organizational culture (OC) enablers and inhibitors of Lean Implementation (LI) in a Small and Medium-sized Manufacturing (SME) organization and the influences of organizational culture (OC) for continuous improvement. It proposes aspects of the Lean Implementation process and how these processes are affected by organizational culture. The study further explains how an organization can improve their implementation process of Lean by adopting Schein Model as a conceptual framework. A literature review research methodology used to identify the (OC) enablers and inhibitors for continuous improvement of Lean Implementation (LI). The literature review establishes the of Lean philosophy, benefits, assessment and the challenges of Lean implementation in SMEs. Moreover, the important of organizational culture, models of (OC), assessments of (OC) and conceptual framework of Schein's Model. In addition, empirical evidence from reviewed literature shows that an organization cannot succeed in Lean implementation unless it has a healthy organizational culture.

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(OC) and conceptual framework of Schein's Model. In addition, empirical evidence from reviewed literature shows that an organization cannot succeed in Lean implementation unless it has a healthy organizational culture.

Finally, the results established 24 enablers and 20 inhibitors. The main enablers are considered to be vital for the successful application for Lean in SMEs manufacturing sector. This paper reports the first study that explores the enablers and inhibitors for successful implementation of Lean practices by leveraging aspects of organizational culture. For the purpose of this paper SMEs refers to organizations with fewer than 250 employees (European Commission definition adopted), (European Commission ,2011) .

Introduction

Implementing Lean into manufacturing SMEs faces difficulties. Organisational culture is one of the most important factors to focus on to facilitate the implementation of Lean within the manufacturing sector (Karim and Arif-Uz-Zaman, 2013). Moreover, the culture of an organisation plays a vital role, especially for managers facing the challenge to change that culture (Graham-jones and Muhareb, 2015). Organisational culture is one of the most important factors to focus on and to facilitate the implementation of Lean within manufacturing (Karim and Arif-Uz-Zaman, 2013). The most important factor that affects the implementation of Lean is the organizational culture (OC) (Al-Najem, Dhakal and Bennett, 2012). It has been observed that the appropriate lean culture enhances the pace of growth and keeps the firm competitive,(Pooyan, Napsiah and Zulkiflle, 2014). Thus, studies have shown that many researchers are in agreement that an organisational culture which does not support Lean is a large reason for the failure of successful Lean implementation, (Munene, 1995; MacDuffie and Helper, 1997; Dixon, 1999; Brown, Willis and Prussia, 2000; Womack, J., & Jones, 2003; Schonberger, 2007) For the purpose of this paper SMEs refer to organisations with fewer than 250 employees as per the definition stated by the European Commission(EC), (EC, 2011). Thus, this paper will present how (LI) influenced by (OC).

Lack of research regarding the critical factor of organisational culture is related to Lean implementation (Pakdil and Leonard, 2015). Therefore, it is important to outline the factors that realized to be critical for the successful implementation of Lean in SMEs manufacturing organization in terms of organizational culture. Thus, the aim of this paper is to present the main enablers and inhibitors factors that are considered important for successful implementation of Lean. In order to evaluate the influences of (OC) on (LI) in SMEs Manufacturing firms, a comprehensive literature review research methodology have been used in this paper. This paper is structured as following. Section 2 present the literature review on Lean definition, benefits of Lean, Lean implementation SMEs and challenges of (LI) within SMEs manufacturing. In section two, understanding Culture and organizational culture (OC), the models of (OC), assessing of the (OC), conceptual framework of Schein's Model and identify the organizational culture enablers and inhibitors of Lean implementation. The important of continuous improvement in section 3 An exploratory of (OC) enablers and inhibitors factors necessary for the successful implementation of Lean are presented in Section 4. Finally, conclusion of this paper is presented in Section 5.

Literature review

The literature review discusses the research spanning of the importance of Lean, the benefits of Lean, assessment of Lean and the challenges of Lean implementation for SMEs. The organizational culture definition and the influences of organizational culture (OC) to Lean Implementation (LI) regarding SMEs in manufacturing firms. Finally, discussion of conceptual framework of Schein's Model. It does so by firstly discussing Lean philosophy followed by (OC) and thirdly how (OC) links to the models and the assessments of (OC).

Lean Philosophy

Lean is defined and interpreted in different ways, and according to Shah and Ward (2007) Lean has been identified as having four approaches; 1. As an operational philosophy 'leanness' 2. A strategic philosophy, 'Lean thinking' 3. An operational practice 'tool box Lean' and a strategic practice 'becoming Lean', (Shah and Ward, 2007). The definition of Lean provided by (Corbett, 2007) emphasises on Lean as an integral part of the entire organisation, essentially pointing to Lean as being

considered more of a philosophy than just a tool or process. This is further supported by Womack and Jones, (2003) who suggest that Lean is becoming understood as more than just production, but an all-encompassing business ideology which incorporates all aspects of value streams as opposed to individual production processes. According to Bhamu and Singh Sangwan, (2014b) Lean provides a methodology by which organisations can significantly improve their responsiveness to customers while decreasing and managing costs and waste in supply and operational procedures. The following table 1 presents various definitions of Lean.

Table 1 Definitions of Lean

Definitions of Lean	Reference
"The Lean approach percolates into ever wider circles of operations, it ceases to be about the best practice and starts to become a part of the fabric of doing business."	(Corbett, 2007)
"Lean production is based on several key principles: eliminating wasteful activities, minimising process variability, pursuing continuous process improvement with employee involvement, devolvement of activities such a quality inspections and periodic maintenance to line workers and maintaining synchronised production flow through shop floor visual signals."	(Angelis *et al.*, 2011, p. 569)
"Lean production is an integrated socio-technical system who'se main objective is to eliminate waste by concurrently reducing or minimising supplier, customer and internal variability."	(Shah and Ward, 2007, p. 791)
"Production that minimises buffering costs associated with excess lead times, inventories, or capacity."	(Hopp and Spearman, 2004; Angelis *et al.*, 2011, p. 569)
"Lean manufacturing combines the capabilities of the workforce with organisational techniques to achieve high outcomes with few resources."	(Salem *et al.*, 2006, p. 169)

Overall increased competition and a more globalised market place has led to stiffer competition with greater demands on businesses to succeed. Regarding demand, customers are presented with a great range of products and thus are growing more assertive and looking for greater value. Organisations can respond to this by improving their understanding of aspects valued by customers and exercising improvements in operations to deliver this, (Hu et al., 2015). Thus, many companies have turned towards Lean to help fulfil this challenge. At the heart of Lean is being highly responsive to the needs of customers, while constantly looking to improve waste and cost management, (Hu et al., 2015). An interesting notion to consider in the definition provided above is listing the inclusion of pursuit of improvement with employee involvement, (Allen and Meyer, 1993). One might consider that employee involvement is also somewhat dependent on the (OC) of the company, (Angelis et al., 2011). Also, the autonomy given to employees and the existence of two way communication within the business, (Alstrup, 2000).

When looking at Lean from a holistic perspective it is considered to greatly encourage organizational learning,(Womack, Jones and Roos, 1990). It has been suggested that implementing Lean systems sets benchmarks enabling the measurement of performance. However, this is greatly dependent on the type of Lean system design, (Crofton and Dale, 1996). A study conducted in Volvo's Uddevalla automobile plant in Sweden found that l learning as much as others, (Adler and Cole, 1995). They suggest that the NUMMI (New United Motor Manufacturing, Inc.) plant in California, a joint venture between GM Motors and Toyota outperformed Uddevalla in terms of performance. This was attributed to the ability to better knowledge sharing compared at NUMMI compared to Uddevalla which gained deeper knowledge which was kept within tight teams, (Adler and Cole, 1995).

Organizational learning can be described as ways in which a company will seek to maintain and ameliorate their competitiveness, productivity and innovation meeting external environmental demands, resulting in a continued competitive advantage, (Dodgson, 1993).The link between Lean and organizational learning is made evident in an experiment with Toyota Motor Corporation and their joint venture with General Motors which discovered that Lean designs were characterised with rather short cycle times and a higher level of standardisation, (Berger, 1997). Therefore, it was apparently easier for employees to pick out issues and create improvements and solve problems,(Crossan, Lane and White, 1999).

Another aspect central to Lean which was mentioned in the definition above is that of waste elimination. However, an aspect of Lean which is sometimes counter intuitive is that this process of waste elimination lessens the resources often allocated for contingency situations creating a somewhat more fragile system, (Crofton and Dale, 1996). This would then rely more heavily on the ability of the employees to react swiftly to deal with malfunctions and smooth out any delays. This concept might be more difficult for cultures which tend to be more risk averse,(Browning and Heath, 2009). However, consistency is even more important in this case and employees must abide by a standardised process when undertaking production tasks. The continuous process improvement is however greatly reliant on the pro-activeness of the employees, (Cameron, 1994). Workers are given more autonomy in quality checking at the source rather than an entire extra operation for the same task. This is also considered to enhance employee accountability, critical thinking and empowerment which should be facilitated by (OC). Studies conducted by Whitfield and Pool (1997), MacDuffie (1997), Kochan et al. (1997) and Vidal (2007) have researched human resource practices which would help to encourage productiveness and voluntary participation from employees for the purpose of Lean systems.

Dombrowski, et al. (2010) suggests that Lean includes the following important areas; visual management, workplace organisation, 5s and process standardisation, continuous improvement, total quality management and total productive maintenance, just in time and production levelling. Rymaszewska (2014) considers it important to organise the components of the list into two schools of thought, one which provides a holistic view of Lean emphasising Lean as not just tools, but as a philosophy. The other is that Lean should be considered as an addition to current methods employed by manufacturers which is essentially opposite to the holistic view.

Lean as a holistic view

In relation to Lean and a holistic view school of thought, Basin and Burcher (2006) Lean should be seen as a journey. This notion compliments the original view of kaizen, the Japanese philosophy advocating small improvements made incrementally over time. It is also suggested that standardisation is another key in realising the benefits of continuous improvement thus achieving long term improvement,

(Wittenberg, 1994). This is further reinforced by Liker (1997) who emphasises the importance of having a long term orientation in relation to Lean.

Lean as an additional tool

However, arguments against this holistic view suggest that in pursuit of 'kaizen' and eradicating waste also caused Japan to land in a situation of 'gridlock' in which factories were needing just in time (JIT) inventories and there was a not enough suitable workers nor capital for investment, (Cusumano, 1994). According to Cooney (2002), external factors particularly affecting JIT can be problematic as production should be levelled across the entire supply chain. In addition to this, he highlights the importance to still consider political and social forces, economic conditions and industry factors when implementing Lean, (Cooney, 2002).However, Lewis (2000) suggests that each company should have their own individual Lean development path. He suggests that Lean does not need to be viewed as an all-in or nothing approach, but he advocates that companies should carefully consider aspects such as the market in which they operate in, technological factors and supply chain, (Lewis, 2000). James-Moore and Gibbons (1997) suggests that companies with very differentiated and low volume and very little repetition will more likely need to modify Lean methods or consider a completely different approach. Lean's ability for cost reduction and improved flexibility is key to providing a company with a competitive advantage despite debates surrounding Lean as a holistic view or addition to current methods,(Im and Lee, 1989; Lathin *et al.*, 2001; Narasimhan, Kull and Nahm, 2012) As continuous improvement and Lean were originated in Japan in terms of waste, the Japanese refer to Muda, Mura and Muri. Mud is considered a process which does not add any value. The mud wastes were originally identified by Aiichi Ohno from Toyota. Muda waste tends to include the following categories; transport, inventory motion, waiting, overproduction, over-processing defects, talent and resources. Many Lean initiatives often do not go past the stage of identifying Muda. Mura refers to unevenness which relates to production smoothing in Lean operations. Muri refers to overburdening and putting extra stress on operations and workers. Lean aims to eradicate all different types of waste and inefficiency from the organisation,(Hines, Holweg and Rich, 2004).

Benefits of Lean

The benefits of Lean are rather clear especially regarding reducing wastes and costs, yet the successful implementation of it has appeared to be more difficult, (Shah, 2003). Particularly the adoption of Lean is particularly low among SMEs who could be said to need it most in order to be competitive, (Shah, 2003). Furthermore, SMEs are in many aspects excellent candidates for implementation of Lean due to ease of transition into Lean systems and to their smaller size, (Denison and Mishra, 1995). This would enable them to lay a solid Lean foundation within the organisation to build on as they grow and expand,(Achanga *et al.*, 2005). However, SMEs are reportedly also unfamiliar with the implementation of Lean, (Shah and Ward, 2007).

Lean challenges the usual concept of economies of scale and mass production sought through manufacturing by instead emphasising greater value to the customer by complete vertical process optimisation throughout the entire supply chain, (Hu *et al.*, 2015). Lean enables closer collaboration with supply chain components, (Bessant and Caffyn, 1997). This improves co-operation by constructing a mutual trust and integration of ways of working, enhancing the total operation, (Berger, 1997). Furthermore, Lean enhances quality control, significantly reducing defects. By removing all buffers and other contingency plans it means that quality control is built into every stage of the production process creating a total in built quality characteristic, (Hu *et al.*, 2015). Another direct benefit associated with

Lean is the organizational learning. These are naturally all important aspects which can create a potent combination for SMEs and accelerate their competitiveness within their industries, (Berger, 1997).

There is a trend in literature regarding to Lean, that much has been devoted to identifying the importance of employee involvement in improvement projects, organizational support and the need for (OC) change in successful (LI). Very little has been devoted to how these can be implemented or changed, (Bessant and Caffyn, 1997). Hu and Mason (2015), even go as far as to suggest there is a bias in Lean SME literature to mainly just focus on efficiency rather than productiveness. Angelis et al (2011) begins to touch on the more social aspects of Lean which link to (OC) by discussing the importance of employee commitment and performance to the successful implementation of Lean.

Lean Implementation in SMEs

Having discussed the need for Lean and the benefits associated with it, it is understandable how Lean would be attractive for companies ranging from small to large and especially SMEs who need to do their utmost to be competitive (Bhamu and Singh Sangwan, 2014b). Rymaszewska (2014) discovered that SMEs often are challenged with a lack of knowledge about (LI) particularly in the case of family businesses where the business owner is in charge of all areas of the business and often wearing many hats, (Rymaszewska, 2014).

According to Hu et,al. (2015), no previous comprehensive literature review of (LI) in SMEs has been conducted which his work aims to fulfil. Some of the more initial research into (LI) for SMEs conducted by Zhou (2012) also encourages the need for more research conducted into this area. The vast majority of research on Lean is more concentrated on large organisations and especially in the car industry where it all began such as Toyota and then Honda,(Dombrowski, Crespo and Zahn, 2010). (LI) was originally created based on the Toyota Production System and given its name by Krafcik(1988) in his 1988 thesis and later made popular by the book 'The Machine that Changed the World' and 'Lean Thinking', (Womack and Jones, 1996; Shah and Ward, 2007). This enlightened the world about the great success of a "Japanese Way of Working" which was the driving force behind their enhanced competitiveness,(Hu *et al.*, 2015).

However, SMEs can greatly benefit as long as it is customised suitably to them, as Lean is considered capable of being applicable regardless of organizational size,(Dorota Rymaszewska, 2014). An important note made by Peter and Lanza, (Peter and Lanza, 2011) is that SMEs can easily face real problems if they try to mimic the Lean system created by. It is crucial to customise Lean to the specific needs of SMEs and small production, especially as one of the main attributes of Lean is its flexibility, (Peter and Lanza, 2011).

A key element in the initial implementation of Lean which has been agreed upon among a number of researchers,(Abernathy *et al.*, 2000; Liker, 2004) is persistence to work through the initial teething problems and to be willing to make short term sacrifices in order to realise benefits in the long term. (Visser *et al.*, 2004)suggests benchmarking is an approach which can assist businesses to improve their performance and by doing so they are likely to improve on aspects helpful to their business context and specific processes. Gurumurthy and Kodali, (Gurumurthy and Kodali, 2009) claim, benchmarking is useful in terms of continuous improvement. This can be instrumental in self-assessment which is considered useful in the inception of implementing Lean to help companies identify their own strengths and weaknesses against those of other companies, (Gurumurthy and Kodali, 2009). Benchmarking is also considered useful in terms of company strategy by helping to identify goals and deal with the transition process, (Moriarty and Smallman, 2009). An advantage for SMEs is that they can more easily

and quickly make changes and adaptations faster than large organisations, (Floyd and McManus, 2005). Furthermore, Seitz (2003) suggests SMEs possess characteristics which favour 'leanness' such as; having more centralised power, greater employee autonomy, less complex hierarchies, simpler flow of communication, and quicker decision making and to more easily take into account diverse opinions from within the company.

Shah and Ward (2007)have advocated a perspective of Lean by categorising it into four categories which include; JIT, TQM, TPM and Human Resource Management. However, they pinpoint that in order to execute Lean successfully it requires "strong leadership and a clear alignment with organizational strategy over many years," (Hu *et al.*, 2015, p. 982). Studies in operations management have researched and discussed a number of causes contributing to the failure of Lean management implementation, (Lander and Liker, 2007). Among these are the keeping of contingency schemes which reduce the impact of Lean as well as not enough attention attributed to human resource management, (Bateman, 2005).

Sony is an example of a well-documented company which has successfully implemented Lean and 'Kaizen' continuous improvement philosophies to create a competitive advantage, (Alstrup, 2000). Although it is far from a SMEs a lesson to learn from them is they not only strive towards continuous improvement in their products but also in their manufacturing methods, (Angelis and Fernandes, 2007), Furthermore, they aim to pass this philosophy onto their suppliers and patterns creating a greater Lean network. One of the distinct advantages they have also enjoyed from the continuous improvement and Lean philosophies, it has enabled them to be more proactive rather than needing to react to changes in the business environment, thus putting them in an overall stronger position, (Bhasin, 2011).

Lean assessment

According to Taj (Taj, 2005) the majority of companies waste around 70 to 90 percent of their resources. An important notion to realise is that incorrect or unsuitable (LI) which can occur from errors in analysis such as; mistakes in identifying the source of waste, not taking into account the unique organizational situation and environment, utilising the incorrect Lean tools, (Almomani *et al.*, 2014). Lean assessment is therefore, the first step in the process and crucial to get right to avoid a negative impact domino effect. However, no one tool suits all assessment situations. Lean assessment tools can vary in their ease of use, details and metrics provided, (Almomani *et al.*, 2014). Ihezi and Hargrove (2009), studied four Lean assessment tools. They discovered that the Lean assessment tools by Quartman Lee at Strategos Inc. is the most simplest to understand while being able to provide the most detailed information in relation to manufacturing, (Taj, 2005; Alsyouf *et al.*, 2011). A similar methodology for Lean assessment tool measures according to several areas including; inventory, employee issues, maintenance, suppliers, safety, production and customers.

Scores are then assigned according to the respective leanness of each area and then totalled for a score given to the company as a whole, (Alsyouf *et al.*, 2011). The Analytic Hierarchy Process (AHP) helps in solving problem efficiently and precisely and thus is widely utilised. It's particularly useful for multi criteria decision making and suitable across numerous sectors such as industry, economy and social among others. (Vaidya and Kumar, 2006). It has been suggested that without a clear path for (LI) devised from correct Lean assessment easily results in increased wastage. Furthermore, they discovered that a Lean radar score is at times somewhat inaccurate in determining an appropriate path for (LI), (Almomani *et al.*, 2014). Honda is an excellent example for Lean assessment as its main competitor has been Toyota which has been the forerunner in (LI), (Maxwell *et al.*, 1998). Therefore, Honda also implemented Lean philosophies which were well established in its head office in Japan. This same Lean

philosophy and corporate culture was then transferred to the United States when operations were expanded and they aimed to combine the corporate culture and Lean philosophies with the local culture, (Maxwell *et al.*, 1998). By utilising benchmarking as a Lean assessment tool helped them to quickly catch on and adequately complete with Toyota.

The challenges of Lean manufacturing implementation in SME

The extent of Lean mostly attempted to be adopted by SMEs has been in internal operations. It is more unlikely for SMEs to adopt a strategic Lean focus, (Wanitwattanakosol and Sopadang, 2012). Therefore, the scope of literature discovered that it is very rare for (LI) to be applied past the level of the factory floor, (Stuart and Boyle, 2007). In contrast, large enterprises are more likely to adopt Lean at a strategic level and they have been shown to be more successful in reaping its benefits, (Stuart and Boyle, 2007). Hines (Hines, Holweg and Rich, 2004) thus points out that while SMEs tend to be merely selecting a combination of the tools and techniques from Lean operation, rather than adopting it as a holistic approach. It is considered important for its successful implementation, such that it leads to perhaps an important factor in the downfall of the success of Lean in SMEs, (Bessant and Caffyn, 1997). Rymaszewska ,(2014) conducts a study regarding (LI) for SMEs which is however, focussed on SMEs in Europe. Its main basis utilises the benchmarking approach which is however rather valuable because it helped to uncover the challenges Toyota faced implementing Lean and highlighting that it is part of the journey, (Dorota Rymaszewska, 2014). Therefore, an important point reinforced by (Flinchbaugh, 2004) is that a Lean organisation is also a learning organisation which therefore incorporates certain trials in the transition process. While Toyota encourages sharing knowledge, they also emphasise the concept of 'learning by doing' which helps to promote greater reflection on processes, (Flinchbaugh, 2004). Furman (Furmans, 2005) suggests there is also the challenge of having a continuous work flow. Liker, (Liker, 2004) suggests that unevenness comes from inconsistencies in scheduling and production volumes which are symptomatic of parts or faulty supplies which have not been delivered. Liker and Rother, (Liker and Rother, 2011) claim that the best way to deal with this is to deal with the total volume of orders within a certain time period, this enables a pattern of volume and production schedule to be arranged. Furthermore, Just In Time (JIT) inventories is a major premise behind (LI) however, Cooney (2002) points out some weaknesses associated with it which include its limitations in dealing with labour and product market forces impacting on JIT. SMEs may have some difficulties in setting up long standing relationships with suppliers, (Cooney, 2002). Morrissey, (Morrissey, 2006) often emphasises short term benefits when it comes to buyer and supplier relationships. Another challenge is the step towards implementing employee autonomy and increased standardisation. Research studies in the furniture and boating manufacturing industries have uncovered, that the line worker mentality with strictly assigned job tasks is still more widely adopted, resulting in the inability of workers to change between various production tasks,(Dorota Rymaszewska, 2014). Some Lean management failures have also been attributed to negative synergies between JIT and operations management practices, (Matsui, 2007).

In general, many studies have focused on the requirement of Lean implementation in terms of techniques, tools and training managers and people, but the get more attention towered of building the right organizational culture and human factors that could enhance the journey of Lean implementation (Dahlgaard and Mi Dahlgaard-Park, 2006). organizational culture is one of the most prominent factor that could impact directly and indirectly on Lean implementation journal.(Al-Najem, Dhakal and Bennett, 2012). Next section will discuss the definition of organizational culture deeply and present models and assessments of organizational culture.

Organisational culture

Various definitions of organisational culture exist, yet there are a number of similarities which include the frame work established. One of the most well-known definitions of organisational culture is, "The way we do things around here," (Sun, 2009, p. 137). According to Brown (1998) organisational culture can be defined as, "*...the pattern of beliefs, values, and learned ways of coping with experience that have developed during the course of an organisations' history, and which tend to be manifested in its material arrangements and in the behaviours of its members*" (Sun, 2009, p. 137). The research available on organisational culture tends to deal with two main factors, the values and behaviours existing in the company and also how strongly these are exhibited throughout the organisation,(Detert, Schroeder and Mauriel, 2000). According to Sørensen and Sorensen, (Sørensen and Sorensen, 2002) both types of values and beliefs in conjunction with how strongly they are abided by within the organisation are important determinants of competitive performance. Four themes have been identified in organisational culture by Maull, et al,. (Maull, Brown and Cliffe, 2001). The first one being, culture is a learned entity, (Sun, 2008). This refers to culture being utilised as the right way for new members to behave thus, propelling development and ensuring survival of the organisation, (Sun, 2008), Secondly, culture is seen as a belief system.

According to Davis (1985) culture is defined as, *"The pattern of shared beliefs and values that give members of an institution meaning, and provide with the rules for behaviour in their organisation,"* (Sun, 2008, p. 138). Under this theme, (OC) is divided into beliefs and daily beliefs. Guiding beliefs provide the context in which the practical beliefs of daily life occur, (Sun, 2008). Thirdly, culture is viewed as a strategy. Although Bate (1995) does not agree with a distinction drawn between culture and strategy. He suggests, strategy in itself is in fact a cultural phenomenon, (Bate, 1995). This would lead to two inferences; firstly, that any sort of strategy formulation is a cultural activity and secondly all cultural changes would therefore be considered strategic changes, (Sun, 2008). Although according to Sun, (Sun, 2008)*"Any cultural programme in an organisation is not separate because any change to the cultural program occurs during formal and informal strategic planning processes,"* (Sun, 2008, p. 138)The fourth theme sees culture as mental programming. This can be seen through Hofstede's definition of culture as, *"collective programming of the mind, which distinguishes the members of one category of people from another,"* (Hofstede, Hofstede and Minkov, 1991, p. 5). Interestingly the understanding of organisational culture and its impact on company performance has been adapting over the decades, (Sørensen and Sorensen, 2002). Peters and Waterman (1982) identified a correlation between a solid organisational culture and successful company and its financial results. However, later on Kotter and Heskett (1992) further added to this by discovering that not only was a strong organisational culture important for company performance, but that it should also be adaptive in order to achieve "*superior performance."* An important aspect to consider when discussing organisational culture is the multidimensional relationship which connects organisational culture and the performance of the company, (Kotter and Heskett, 1992). Its impact is far reaching as it involves a number of areas which relate to the organisation's competitive performance, (Kotter and Heskett, 1992). Porter (1985) reinforces the notion of achieving the right fit between organisational culture and a specific type of organisational performance. Prior research which embodies the role of organisational cultural influence on performance has been highlighted in numerous researches,(Dale and Cooper, 1992; Oackland, 1995; Thomas, 1995; Wilkinson et al., 1998; Stock, McFadden and Gowen, 2007). According to Ouchi (1981) significant contrasts can be identified between corporate structures of America and Japan. Japanese companies tend to be characterised with great labour force stability and utilising democratic decision making processes, (Mehri, 2006). Furthermore, respect for people is at the cornerstone of their

organisational culture and successful Lean implementation, (Mehri, 2006). The following (OC) models and assessments were reviewed and select an conceptual framework..

Models of Organisational Culture

There is a great deal of cultural models found in research literature such as (Hall's model, Hofsted's model and Hampden-Turner & Trompenaars's model). Amongst those models. The author believes adopting Schien's model would help to know how far the organisation is from Lean. On the other hand, Denison's model, which is considered to be a pragmatic model, depends on feedback from the whole organisation. This enables leaders to identify what's going wrong. The following (OC) models and assessments were reviewed for suitability to this paper to understand the important of (OC) and help the author to understand the models deeply.

Nadler and Tushman-Congruence Model

The Nadler and Tushman model proposes four elements of organisational anatomy; people component, organisational structure, culture and work tasks. The model assists in identifying the root drivers for organisational performance.
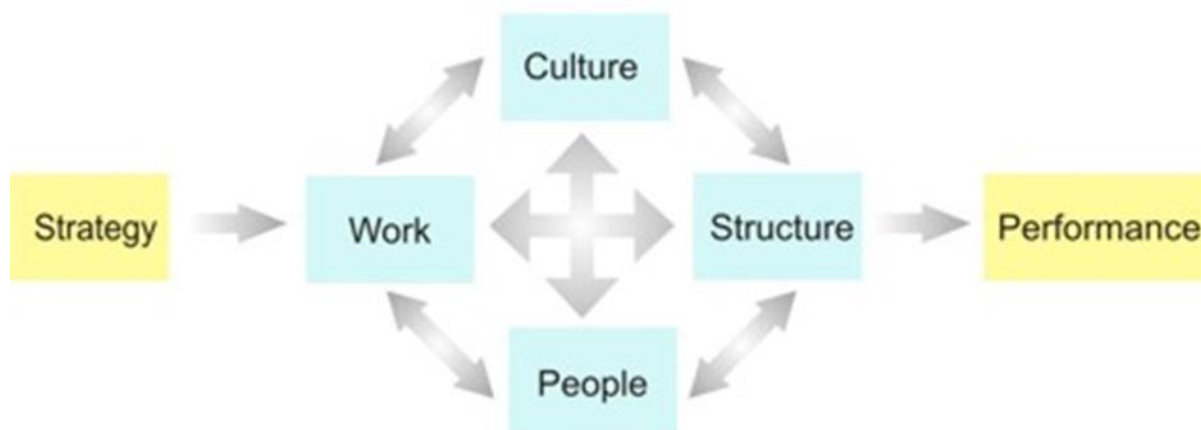

Figure 1 Congruence Model   (Source: mindtools.com)

The people component refers to the people in the organisation / company, their personal attributes such as personality, abilities and motivation. The task component refers to the job tasks and how they are co-ordinated. The formal organisation structure is made up of the framework, levels, processes and operations of the company, (Gibson and Barsade, 2003). The internal politics and culture can be witnessed in this component. Nadler and Tushman (1980) emphasise that if an incongruence occurs between the four components this will cause the organisation to struggle.

An advantage of this model is that it serves as a reminder that changes or even errors in one area of the organisation will have an effect on the other components of the organisation, (Nadler and Tushman, 1999). This is highly relevant to the research for this project as at its essence is the chain reaction of organisational culture on Lean in SMEs.

Goffee and Jones

Goffee and Jones consider organisational culture similar to 'communities' and divide them into two categories of human relations; sociability and solidarity. Their matrix has been organised into the

following sections. Firstly, networked organisations tend to have little hierarchy and rather greater emphasis on social groups and friendships within the organisation (Goffee and Jones, 1996). The Mercenary (OC) is quite opposite to the networked culture, instead it has a clearly organised hierarchy and a clear distinction between work life and social / personal life. A fragmented culture displays low levels of personal and professional relationships with little group work and higher levels of solitude, (Axelrod, R.H., Axelrod, E., Jacobs, R.W. and Beedon, 2006), The communal organisational culture exhibits higher levels of integration than a networked culture with highly informal relations between employees and a higher level of social relationships and caring between those in an organisation with very limited hierarchies, (Axelrod, R.H., Axelrod, E., Jacobs, R.W. and Beedon, 2006).

Goffee and Jones suggest that senior management should establish a type of organisational culture which best suits the business environment. The authors highlight the importance of understanding the impact that sociability and solidarity can have on the company in terms of attracting the best employees, (Goffee and Jones, 1996).
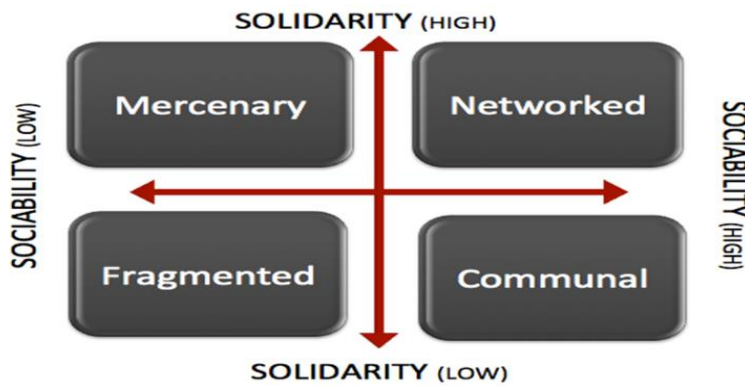

Figure 2 Goffee and Jones   (Source: Coaching-for-leaders.com)

Competing Values Framework

The competing values framework developed by Quinn and Spreitzer,(1991) which encapsulates four different cultural dimensions.   This framework is particularly useful in demonstrating how organisational culture dimensions can impact performance sectors within the organisation, (Prajogo and McDermott, 2011).
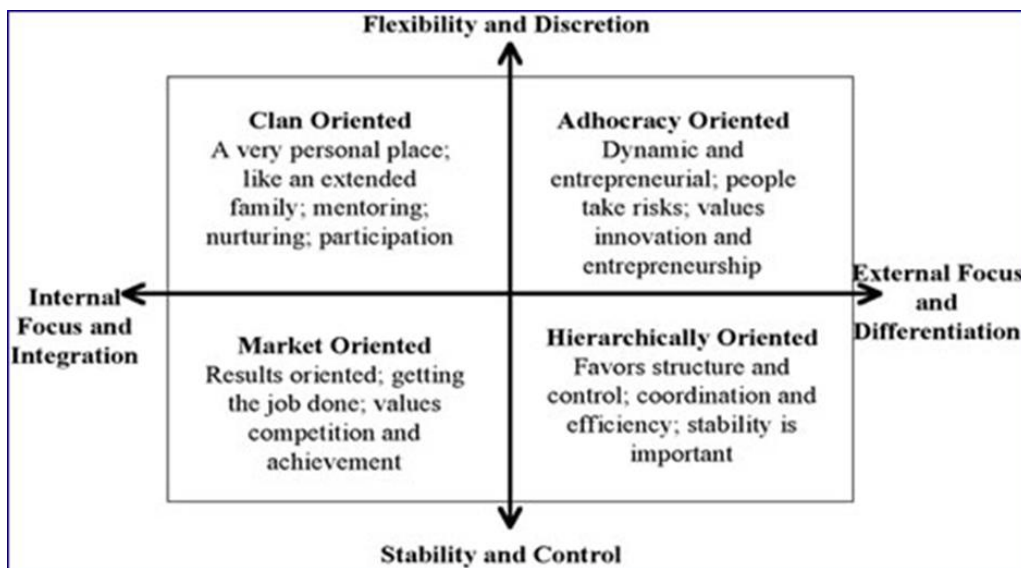

Figure 3 Competing Values Framework (Cameron and Quinn, 2005).

Cameron and Quinn's culture assessment model was established as a response to the transition from the industrial to the information age to meet greater competitive pressures,(Cameron and Quinn, 2005). Furthermore, a difficulty in current research which has been highlighted via application of the competing values framework and is worth consideration when discussing Lean strategy in manufacturing companies, is that high quality standards tend to be associated with carefully meeting specifications and control in numerous areas with attention to detail and maintaining a high standard, (Cameron, 1994).

However, flexibility is more associated with teamwork and empowerment and giving more degree of autonomy to employees and this autonomy is also largely associated with Lean concepts, (Cameron, 1994). Thus, the model also helps to uncover where competing factors might arise. This model is set on a continuum, the first being flexibility to focus or control. This represents two opposing methods reflecting the organisation's ability to open themselves up to spontaneous opportunities and development and on the other end of the continuum reflects a higher degree of stability,(Quinn and Spreitzer, 1991).

The other dimension is the internal to external continuum. The model shows high flexibility and an external focus in which creativity is a major focus and a way of dealing with uncertainty, (Cameron and Freeman, 1991). This type of organisation has a greater likelihood to favour high technology or more risky projects because of the business environment. This reflects two other methods adopted by a company, one being maintaining and improving on what is already present in the organisation and the other on responding and adapting to the external environment. Although these categories are relatively stereotypical it is not uncommon for organisations to exhibit attributes from other categories also, (Cameron, 1994). It is a useful model in order to understand organisational culture and in terms of analysing drivers and prohibits of company performance, and the drivers and inhibitors for implementation of Lean within the organisation, (Cameron and Freeman, 1991).Furthermore, a difficulty in current research is that high quality standards tend to be associated with specifications and control in numerous areas, with attention to detail and maintenance of a high standard, (Cameron and Quinn, 2005). However, flexibility is mostly associated with teamwork and empowerment and giving more degree of autonomy to employees and this autonomy is also largely associated with Lean concepts, (Quinn and Spreitzer, 1991). Thus, the model also helps to uncover where competing factors might arise. The value of utilising this model is that it includes flexibility and control that are crucial for evaluating certain aspects of (OC) which are necessary for achieving certain organisational goals.

Culture Web

The cultural web by Johnson and Scholes (2001) consists of seven key elements which are interlinked. The centre which is the paradigm, consists of commonly held beliefs and values within the organisation, (Scholes and Johnson, 2001). Around the paradigm are seven elements which can be established at various stages during the development of the organisation, (Sun, 2008). These assumptions, beliefs and

values are most often set by leaders in the organisation resulting in a guidance for behaviours considered appropriate in the company, (Sun, 2008).
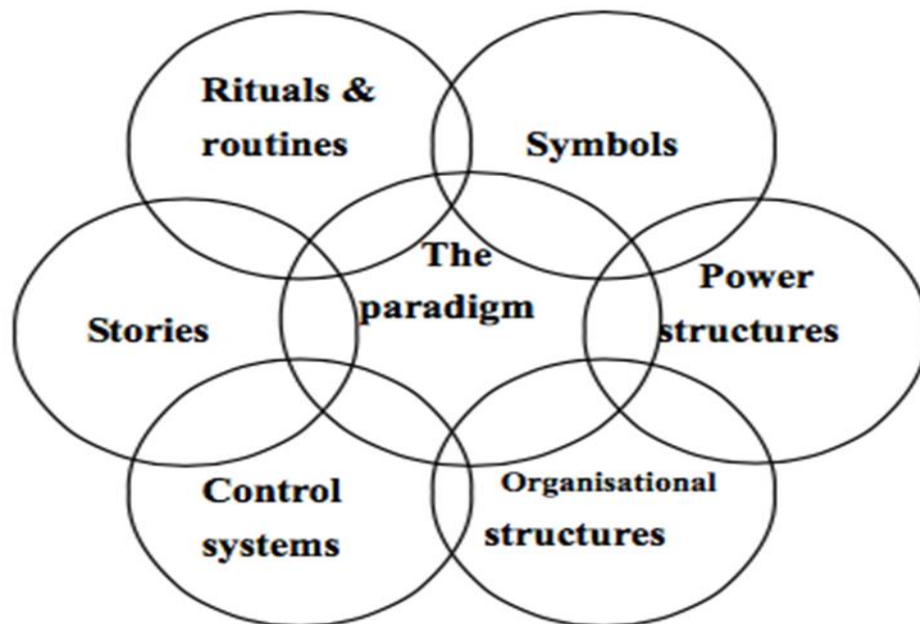

Figure 4 Cultural Web   (Scholes and Johnson, 2001)

Assessing culture

Hofstede

Hofstede's, cultural dimensions assist in categorising areas which cultures might deal with differently. These include; collectivism vs individualism, masculinity vs femininity, uncertainty avoidance, power distance and long term orientation, (Hofstede, 2011). These can not only be applied to national culture assessment but also to organisational cultural assessment in order to determine how collectivist vs individualist (OC) influence organisational performance. Furthermore, it serves as a way of identifying prevailing attitudes within an organisation which impact on managerial and employee behaviour and relationships. Hofstede's dimension was researched among 76 different countries which make it rather extensive and useful in terms of measuring national culture. Although it should be noted that his methodology included employees from IBM who are generally middle class educated people and therefore are not necessarily representative of the entire population of the country, (Shaiq, 2011). Despite this, it provides a solid theoretical framework from which to assess national culture and thus be applied to (OC).

Trompenaars

Trompenaars and Hampden-Turner, (Trompenaars and Hampden-Turner, 1997) aim to help investigate national culture with their cultural dimensions and why a number of management processes become less effective when transferred across to other cultures. Their work is a natural extension of Hofstede's as there is some overlap in a few dimensions but a few other dimensions are added to enable the inclusion of other factors, (Trompenaars and Hampden-Turner, 1997).
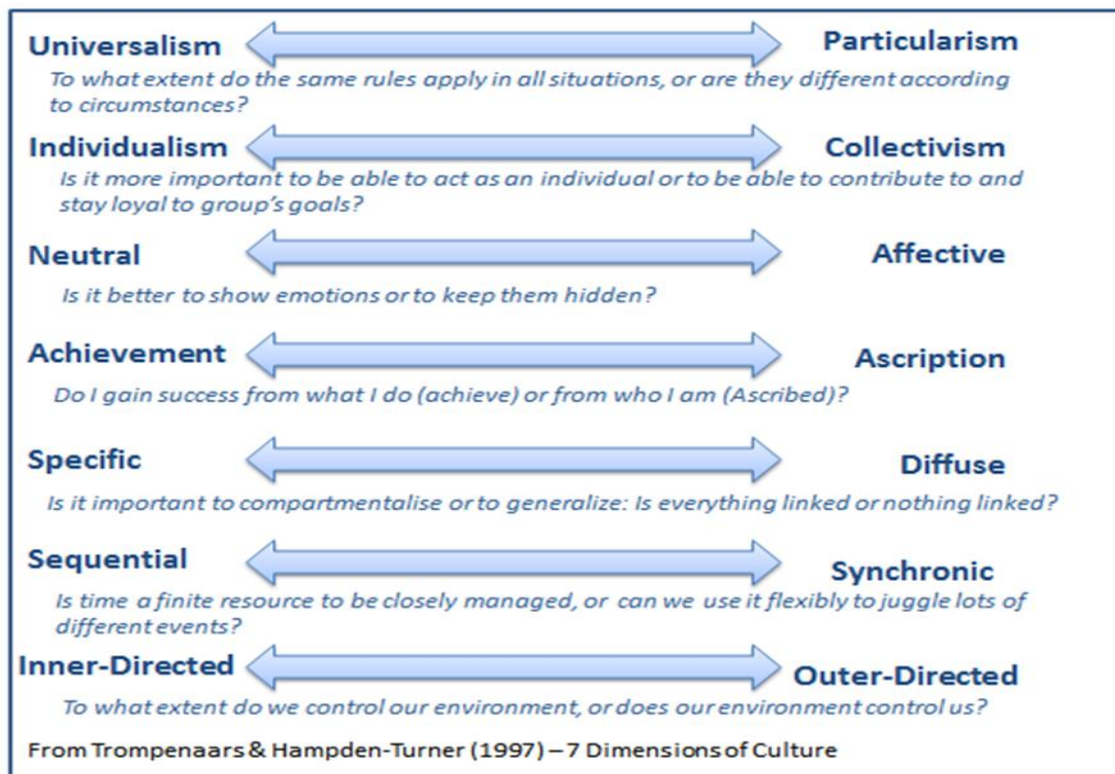
Figure 5 Trompenaars Cultural Dimensions (Source: Trompenaars and Hampden-Turner, 1997)

Modern managers may fall into the trap of thinking that if they follow a series of steps and instructions they can achieve the same results realized by another, (Gregory *et al.*, 2009). Because of the mistake to assume universality of business principles and practice, SMEs may likely adopt a philosophy such as Lean and not understand why it has not succeeded as it should,(Smith, Dugan and Trompenaars, 1996). His emphasis is essentially that there is not one best way of doing something. The importance is to not get caught up in the processes. For example the implementation of a "chain of command" might be interpreted as "family in another culture" thus generating different results, (Gregory *et al.*, 2009). Keeping this in mind Trompenaars cultural dimensions are useful in terms of contextualizing Lean processes in accordance with SMEs manufacturing. The theory also suggests that culture occurs on numerous levels therefore his culture dimensions are designed to be applicable not only to the national culture but organizational culture too, (Smith, Dugan and Trompenaars, 1996). A study conducted by Trompenaars and Hampden-Turner (Smith, Dugan and Trompenaars, 1996) asked groups of professionals from a variety of different countries to select which statement best describes how they would define an organization.

A. "One way is to see a company as a system designed to perform functions and tasks in an efficient way. People are hired to perform these functions with the help of machines and other equipment. They are paid for the tasks they perform," (Trompenaars and Hampden-Turner, 1997).

B. "A second way is to see a company as a group of people working together. They have social relations with other people and with the organization. The functioning is dependent on these relations." (Trompenaars and Hampden-Turner, 1997).

The results revealed that only slightly over a third of respondents viewed an organization as a system as opposed to a social group or family in France and Asia. The English speaking countries were rather

divided on the definitions and most of the Eastern European countries and Russia tended towards defining an organization as a system, (Trompenaars and Hampden-Turner, 1997).

Continuous improvement

Lean culture should not be seen as just cost cutting and waste reduction exercise because central to this is that it is an improvement system, (Singh and Singh, 2015). Continuous improvement can be defined as, *"A structured equipment - centric continuous improvement process that a strives to optimize product effectiveness by identifying and eliminating waste and production efficiency losses throughout the production system life cycle through active team based participation of employees across all levels of the operational hierarchy,"* (Singh and Singh, 2012, p. 78). The organizational view should be that, *'this is the best way we know of doing this at the current time, but we are always looking for ways in which it can be done better,'* (MacBryde, Paton and Clegg, 2013, p. 334). Lean also requires fighting against human tendency to fall into the trap of creating too much habitual behavior which stays for too long and getting stuck in a comfort zone, (Womack and Jones, 1996). The concept of continuous improvement is considered central to a Lean culture which is further confirmed by (Singh and Singh, 2012). Lean includes total quality management, employee involvement programmers, customer service initiative and waste reduction campaigns all hand in hand with Lean manufacturing, (Al-Najem, Dhakal and Bennett, 2012). Shingo (1988) suggests that for companies to be competitive in the current dynamic business environment continual improvement is a necessity. Research suggests that requirement of companies to reduce costs and maintain quality while eliminating wastes and increasing efficiency, is essentially achieved through continuous improvement which Singh and Singh, (Singh and Singh, 2012) define as a culture of sustained improvement. This concept of continual improvement is at the heart of a Lean culture. This describes regular incremental improvements made consistently over time at shorter intervals as opposed to long periods of stagnation with revolutionary changes occurring occasionally, (Shingo, 1988).

Finding from literature review

Pakdil and Leonard, (Pakdil and Leonard, 2015) suggest a number of organisational factors which create the cultural infrastructure of a company impacting on the success of Lean management. These factors include; *"employee involvement, creativity, problem-solving processes, decentralisation, control and standardisation, efficiency, productivity and continuous improvement,"* (Pakdil and Leonard, 2015, p. 726). Liker, (Liker, 2004) suggests that two key elements present in Lean cultures are, continuous improvement and care for employees and relationships. Naor *et al.*, (Naor *et al.*, 2008) suggest that Lean culture needs well-trained human resources to foster improvement and knowledge sharing, in order to leverage Lean as a competitive advantage. With regards to understanding more about Lean culture at higher levels in the organisation, Saha *et al.*, (Saha *et al.*, 2014) identify the importance of establishing Lean transformation initiatives to create a 'Lean culture' within the organisation to support the Lean processes on the factory floor. They identify the following 'social areas' which need adjustment in order to take on a Lean philosophy and transition to a Lean culture, (Flinchbaugh, 2004). Leadership behaviour and style is of particular importance in conjunction with strategies which are geared towards encouraging Lean culture. Saha *et al.*, (Saha *et al.*, 2014) identify an important aspect, which compliments the work of (Angelis *et al.*, 2011) in terms of the discussion of employee commitment. Saha *et al.*, (Saha *et al.*, 2014) who researched Lean in server manufacturing, suggest that the altering of employees' mindsets and the worker's train of thought and the company's willingness to embrace Lean transformation contributes for 80% of Lean's success in the company.

The soft Lean aspects are considered critical factors for the success of Lean,(Saha *et al.*, 2014). While Lean has been recognised as providing improvements in production, its failure has often been due to not enough emphasis being placed on soft Lean aspects,(Al-Najem, Dhakal and Bennett, 2012). The role of senior management is critical in initiating and sustaining Lean within the organisation, (Swank, 2003). Their role encompasses the following areas; firstly, the development and implementation of a framework and process which can pre-empt and deal with issues of Lean transformation across departments, (Swank, 2003). The aim is to improve the chances for the success of sustainable improvements to processes lasting beyond just the duration of a project but for the long term, (Swank, 2003). Research conducted by Singh and Singh, (Bhamu and Singh Sangwan, 2014b) highlights how Lean culture and continuous improvement is manifested at task level within the organisation. As identified in Lean philosophy continuous improvement also tends to advocate team work,(Detert, Schroeder and Mauriel, 2000). However, in addition to this each individual worker is also encouraged to show areas for improvement in their day to day tasks and to communicate and provide suggestions on how things can be made better, ,(Detert, Schroeder and Mauriel, 2000). Furthermore, these regular team discussions are held in order to identify areas of weakness within the processes followed by brainstorming solutions. Furthermore, central to the continuous improvement is the principal of a customer driven outlook for improvement. This is complimentary to the customer added value principle in Lean culture,(Singh and Singh, 2012). Within this continuous improvement the success of the company depends highly upon the customer, (Prajogo and McDermott, 2011)Therefore, the aim is to go beyond customer expectations. Continuous improvement is founded upon the active participation of people, (Fullerton and McWatters, 2001). This means knowledge sharing, training, and growth are all given high priority, (Fullerton and McWatters, 2001). Continuous improvement emphasises the consideration of the entire process and on the end result rather than too much internal focus within isolated departments, (Prajogo and McDermott, 2011). It advocates the co-operation of horizontal processes to the customer value added principle encouraging horizontal communication, (Fullerton and McWatters, 2001).

Design improvements are not only considered at a product level but also encompassing a service level and identifying areas for improvement sooner as opposed to later which incurs greater costs, (Prajogo and McDermott, 2011). Factual decision making which requires thorough investigation at all levels is central to continual improvement, thus strong participation of feedback from task level staff is often necessary, (Imai, 1997).

Partnership developments are also an important factor in continuous improvement as relationship building, both internally and with external suppliers and contractors are often essential to the smooth running of projects, (Imai, 1997). Matsui, (2007)suggests that the effectiveness of hard Lean practices are significantly increased when teamed equally with the soft practices which include Human Resource Management (HRM), customer feedback, supplier, management and leadership support. However, studies suggest that no single organisational profile guarantees success,(Denison and Mishra, 1995; Prajogo and McDermott, 2011; Bortolotti, Boscari and Danese, 2015). Rather, what is suggested is the establishment of diverse and varied organisational cultural profiles which leverage a particular management process or improvement program, (Detert et al,. 2000). There are a number of situations which exemplify how specific organisational culture dimensions are linked to different and at times opposing performance outcomes, (Fey and Denison, 2003). Furthermore, it has been noted that a high power distance has an adverse effect on employee empowerment and autonomy, (Prajogo and McDermott, 2011). Higher levels of uncertainty, avoidance and organisational collectivism have a positive correlation with improvement projects, (Prajogo and McDermott, 2011). Furthermore, higher levels of group collectivism and long term orientation are considered to significantly and positively

impact on operational performance,(Lozeau, Langley and Denis, 2002). According to Lozeau et al., (Lozeau, Langley and Denis, 2002), if a misfit between organisational culture and organisational practices happens, this leads to a reduction in performance improvements. Liker (Liker, 2004) has discussed Toyota's example of organisational culture according to 14 principles, while Rother (2009) has discussed Toyota's organisational culture in terms of continuous improvement. While they did not utilise an extensive organisational culture model, it did highlight certain attributes which are consistent with organisational culture. These values include fairness, encouraging co-operation and closer ties between the company and its suppliers and a strong focus on continuous improvement, (Bessant and Caffyn, 1997). According Wincel and Kull, (Wincel and Kull, 2013) Lean culture will probably be forever evolving as organisations gradually master its implementation.

The study conducted by Bortolotti, Boscari and Danese, (Bortolotti, Boscari and Danese, 2015) discovered that organisational cultures which experienced more successful results from Lean possessed the following characteristics; high organisational collectivism, long term orientation and humane orientation, combined with lower levels of assertiveness (Bortolotti, Boscari and Danese, 2015) Their research suggests that it is not the hard practices that differentiate successful Lean implementation but the soft practices, (Bortolotti, Boscari and Danese, 2015). They discovered that increased levels of humane orientation and lower assertiveness were essential for maximising results from employees in order for the improvement of processes, (Rother, 2009). However, (Bortolotti, Boscari and Danese, 2015) suggest that future research is needed for the specific role that each organisational cultural factor has in implementing Lean management. This is particularly important because many of the same organisational culture characteristics were discovered in high performing non- Lean plants in their study. Thus they could not attribute these as being exclusively important to Lean management, (Bhasin and Burcher, 2006). However, they believe these findings can significantly add to the discussion on if there is an organisational cultural profile which best facilitates the success of Lean,(Bortolotti, Danese and Romano, 2013). It was however discovered and confirmed by (Naor *et al.*, 2008), that assertiveness was apparently the only characteristic which specifically distinguished successful Lean plants. This can be attributed to the fact that low assertiveness allows better co-operation between departments; reducing obstacles, inhibiting cross functional collaboration and integration, (Shah and Ward, 2007). The tables 2 and 3 below show the enablers and inhibitors of organisational culture aspects in Lean implementation.

Table 2 Lean Implementation enablers

Lean Implementation enablers	References
1. Support of senior management	*(Achanga et al., 2006b; Panizzolo et al., 2012)*
2. Training for senior management	*(Achanga et al., 2006b; Panizzolo et al., 2012)*
3. Positive / Strong relationships between workers.	*(Hu et al., 2015)*
4. Employee commitment	*(Angelis et al., 2011)*
5. Implementing lean as a philosophical function	*(Hines, Holweg and Rich, 2004b; Bhasin and Burcher, 2006; Shah and Ward, 2007)*

6. Lean in social aspects (soft lean practices) are important for success	*(MacDuffie and Helper, 1997; Brown, et al., 2000; Schonberger, 2007; Olivella, et al., 2008)*
7. Employee productiveness is especially good for improvement projects	*(Fullerton and McWatters, 2001; Bhasin and Burcher, 2006; Schonberger, 2007)*
8. Employee participation and knowledge sharing.	*(Angelis et al., 2011)*
9. Developing employees as an integral part of organisation leading to a sense of job security enhancing employee commitment.	*(Womack et al.,1990)*
10. Environment which enhances employee commitment is imperative.	*(Munene, 1995; Dixon, 1999)*
11. Support of senior management and middle management	*(Womack and Jones, 1996)*
12. Clear demonstrations of organizational support for workers	*(Angelis et al., 2011)*
13. Provision of appropriate tools, processes etc. to support employees implement lean	*(Womack and Jones, 1996; Womack, J., & Jones, 2003)*
14. Knowledge sharing systems	*(Womack and Jones, 1996; Shah, 2003; Womack, J., & Jones, 2003; Shah and Ward, 2007; Angelis et al., 2011)*
15. Job rotation to help increase skill base and mitigate pressure of overtime on a small pool of employees	*(Shah, 2003; Shah and Ward, 2007)*
16. Fairness in the workplace	*(Angelis et al., 2011)*
17. Preparation of employees into transition of lean systems and philosophy to reduce anxiety and stress from fear of change	*(Allen and Meyer, 1997)*
18. Provide sufficient support and training for employees	*(Allen and Meyer, 1997)*
19. Horizontal communication and co-operation between departments and department objectives	*(Mann, 2009)*
20. Vertical two-way communication between upper management and task level employees	*(Mann, 2009)*
21 Lean culture reinforced by management attitudes and behaviors	*(Mann, 2009)*

22 Emphasis on continuous improvement	*(Imai, 1997; Naor et al., 2008)*
23 Strong emphasis on customer added value as ultimate goal	*(Prajogo and McDermott, 2005)*
24 Collective organisational culture	*(Bortolotti, Boscari and Danese, 2015)*

22 Emphasis on continuous improvement

Table 3 Lean Implementation inhibitors

Lean Implementation inhibitors	References
1. Lack of management support / commitment	*(Al-Najem, et al, 2012)*
2. Role ambiguity	*(Angelis et al., 2011)*
3. Lack of realization that lean philosophy is a high maintenance system, cannot be just implemented and left to own devices	*(Bhasin and Burcher, 2006; Bhasin, 2012)*
4. Too much emphasis on one factor over another, for example speed over quality or vice versa	*(Bessant and Caffyn, 1997)*
5. Overtime pressure falling on only a few workers due to skill set	*(Shah, 2003; Shah and Ward, 2007)*
6. General feeling of unfair practices and policies existing throughout the organization.	*(Angelis et al., 2011)*
7. Reluctance to stop a production set to deal with a fault in a product.	*(Crofton and Dale, 1996)*
8. The development of a 'blame' culture.	*(Angelis et al., 2011)*
9. Lack of appropriate / necessary equipment to perform the job task well leads to a reduction in employee commitment.	*(Shah, 2003; Shah and Ward, 2007)*
10. Disruptions to work flow leads to frustration in workers and reduces employee morale.	*(Swank, 2003)*
11. Employees' unwillingness to socialize with other colleagues also reflects inability to work in teams and reluctance to participate in improvement projects.	*(Angelis et al., 2011)*
12. Poor planning.	*(Womack and Jones, 1996; Womack, J., & Jones, 2003)*
13. General low employee morale.	*(Angelis et al., 2011)*
14. Lack of appropriate key performance indicators.	*(Yan-jiang, Lang and Xiao-na, 2006)*
15. Adoption of a 'one size fits all' approach to lean implementation.	*(Womack and Jones, 1996; Shah, 2003; Womack, J., & Jones, 2003; Shah and Ward, 2007)*
16. Inappropriate reward system.	*(Alsyouf et al., 2011)*

17. Too much emphasis on internal departmental boundaries and objectives.	*(Mann, 2014)*
18. Incorrect lean assessment of the source of waste.	*(Achanga et al., 2006b; Ihezie D, 2009)*
19. lean consultants, providing financial assistance for training	*(R. Jadhav et al,. 2014)*
20 Job security	*(Marodin and Saurin, 2013)*

Conceptual Framework

A useful framework to understand the interventions that influences the Lean implementation in terms of organizational culture is Schein's model (1984). Schein (1984) the existence of "artefacts, values and beliefs and the behaviours which are commonly shared and accepted by members in the organisation", (Detert *et al.*, 2000, p. 851). Schien's Model (1984) suggests that organisational culture is established from a group working together and developing patterns as they collaborate to solve problems and ensure organisational survival,(McLaughlin, Bessant and Smart, 2010). His model is comprised of three levels. Firstly, artefacts which are the objects and elements which can be seen or experienced such as the company building and logos, the processes, communication etc. Secondly, espoused values which are comprised of the principles and standards within an organisation belonging to their employees, (Schein, 1984). These describe what is considered important by the organisation. Finally, underlying assumptions refer to beliefs, thoughts and feelings. Schein's model emphasises the way in which artefacts and values can expose things regarding underlying assumptions, (Schein, 1990).
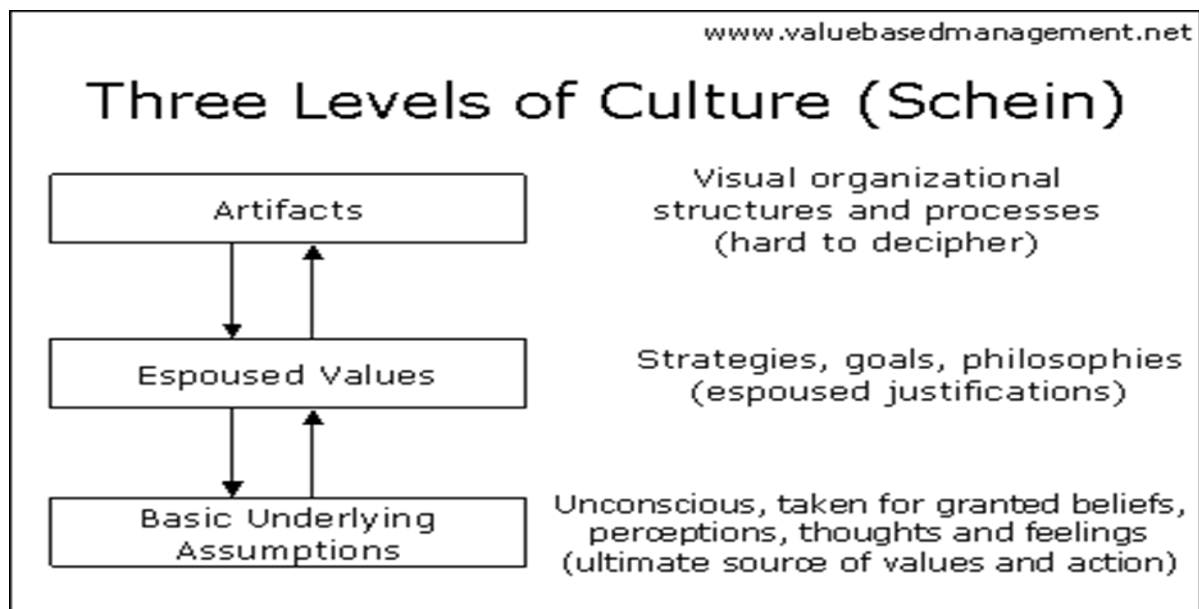

Figure 6 Schein's Three Levels of Culture

Schein's models that proved to be powerful in understanding and measuring the organisational culture. Schien's model helps in understanding the organisational culture at different levels such as artifact, espoused values and basic underlying assumptions by fully describing the organisational behaviours as norms and relationships between group members. It is found to be more about observing than collecting data. An organisation could be judged by observation of people and their dress code.

Conclusion

Studies have shown that many researchers are in agreement that an organisational culture which does not support Lean is a major reason for the failure of successful Lean implementation, (Munene, 1995; MacDuffie and Helper, 1997; Dixon, 1999; Brown, Willis and Prussia, 2000; Womack, J., & Jones, 2003; Schonberger, 2007). The gap highlighted in the research is the role of the (OC) in facilitating the

benefits to be derived from Lean. With regards to (OC), very little is discussed about how some national cultures can influence the definition of an organisation, either as a group of people who have social interactions with each other or as a system where each party has a role to play to achieve organisational goals, (Trompenaars and Hampden-Turner, 1997). The way a culture defines and views an organisation will impact on the organisational culture. This aspect highlights the gap this research will aim to uncover; how (OC) can be used to leverage Lean in SMEs in manufacturing firms. This is necessary to bear in mind when transforming into Lean culture. It has also been identified that the failure rate of Lean in SMEs tends to be higher when compared with Multinational National Enterprises (MNEs), (Prajogo and McDermott, 2011). This has also been attributed to the tendency of SMEs to only implement Lean tools as opposed to an entire Lean philosophy. A lack of knowledge regarding how Lean should be implemented when not at a 'task level' permeates the literature, (Cameron, 1994). Furthermore, with regards to Lean, numerous social aspects have been identified with the success of implementing Lean in organisations. These social factors permeate from the upper levels of the organisation to the task levels, (Pakdil and Leonard, 2015).

Factors such as; fairness, leadership, commitment to implementing Lean, employee commitment, knowledge sharing and continuous improvement have all been identified as enablers of Lean in organisations (Angelis and Fernandes, 2007). The research revealed some disagreement as to the ease and ability for SMEs to successfully implement a Lean philosophy. This is further reinforced by the continuous improvement philosophy which demonstrates numerous overlaps within Lean concepts and has been the key strategy in Japanese manufacturing due to its high effectiveness and lower cost implementation which is highly suitable for SMEs,(Yan-jiang, Lang and Xiao-na, 2006).

Finally, with regards to Lean culture, there is a general understanding of factors which should exist in a Lean culture. These include the adoption of communication, horizontally and vertically throughout the organisation. An environment which encourages a high level of employee involvement in decision making, project improvements and attitudes among all staff which are open and always proactive, may lead to an improvement in performance and a leadership style which encourages and supports such behaviours, (Shingo, 1988; Mann, 2009). Key to the Lean culture is having an attitude which emphasises a customer driven value system (Womack, J., & Jones, 2003; Yasin, Small and Wafa, 2003; Al-najem, 2014). This does not prioritise any individual department, but emphasises the end result so departments can put aside their own internal boundaries to co-operate better, achieving greater customer value,(Al-Najem, Dhakal and Bennett, 2012). However, the literature gives guidance on how this can be implemented in larger organisations with substantial hierarchies. The subsisting gap is a framework which pieces together the important elements of Lean culture and presents this in a way which is applicable to SMEs. by using Shein's Model as a conceptual framework, this paper will be continuous researching to develop a framework for small and medium sized manufacturing firms to facilitate Lean implementation by leveraging aspects of Organizational Culture by using grounded theory and action research methodology. Inductive approach will be applied for the research. In addition, qualitative method, semi-structured interview, focus group and observation as a data collection will be applied for this research. Also, applied an issue focused approach(Sackmann, 1991) by asking to the participant Tell me about an example you have seen implementation of Lean work well?, tell me about situation of Lean implementation has not work well? The research will focus on SMEs manufacturing sector.

Notes

This article will continue to develop a framework for small and medium sized manufacturing firms to facilitate Lean *implementation by leveraging aspects of Organizational Culture*

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Organisational culture - Enablers and inhibitors factors for the effective implementation of lean

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