Developing value-based leadership for sustainable quality development: a meta-analysis from a study of Lean manufacturing

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Abstract

Purpose – This paper aims to explore how leaders can develop value-based leadership for sustainable quality development in Lean manufacturing.

Design/methodology/approach – A qualitative meta-analysis was conducted using data from a three-year study of Lean manufacturing in Sweden using the Shingo business excellence model as an analytical framework.

Findings – This study demonstrates that leaders can develop value-based leadership to support Lean manufacturing by defining and articulating the organization's values and accompanying behaviors that are needed to support the strategic direction; creating forums and time for leaders to identify the why behind decisions and reflect on their experiences to be able to lead a transformative process; and using storytelling to create a coaching culture to connect values and behaviors, to the processes and systems of work.

Research limitations/implications – This paper contributes insights for developing value-based leadership to support a systemic approach to sustainable quality development in lean manufacturing. Findings are based on a limited case sample size of three manufacturing companies in Sweden.

Originality/value – The findings were derived using a unique methodological approach combining storytelling, appreciative inquiry and coaching with traditional data collection methods including surveys and interviews to identify, define and shape value-based leadership in Lean manufacturing.

Keywords Sweden, Lean, Values, Culture, Value-based leadership

Paper type Research paper

Introduction

"Where are the people?" asked one of the employees, after the leadership team delivered a well-planned presentation about the new strategic plan. The words echoed around the room as the employees silently waited for a response. You could hear a pin drop. Perplexed at first, the leadership team soon realized that in their care to form a strategic plan for the coming five years, they had failed to incorporate the company's number one asset: *the people*. They took for granted that the people were already embedded in the plan given their employment. This was when the leadership team awoke to the power of organizational

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culture and the realization that they had failed to model the value of the people, which is an integral component of sustainable quality development.

This scenario is all too familiar. Quality management initiatives often miss the mark on achieving excellence because leaders focus on tools and processes and lack an understanding of organizational culture and the value of the people (Mann, 2009; Stone, 2012; Turesky and Connell, 2010). According to Shingo Institute (2017), this is common. He claimed that:

> [. . .] when one does not achieve target results, they often try tweaking the current systems or implementing new tools in the hope of reaching the target. Yet, the tools and systems alone do not operate a business, people do (p. 11).

This insight stimulated changes in the Shingo model of business excellence, which today is organized into five integrated components that connect results, tools, culture, systems and guiding principles. According to Shingo, "sustainable results depend on the degree to which an organization's culture is aligned to specific guiding principles rather than depending solely on tools, programs and initiatives" (p. 9). This suggests a need for leaders to engage in dialogue about culture and values in their organizations and the relationship to tools and processes to achieve sustainable quality development.

The core values of quality management must be supported by the top management and connected to the vision, strategic plans and work processes for quality initiatives to succeed. Bergman *et al.* (2022) speak of the importance of leadership to achieve this suggesting that "it cannot be overstated how important a clear and committed leadership is for creating a culture for successful and sustainable quality improvements" (p. 72). Dahlgaard-Park (2009) contends that one of the greatest challenges for leaders, and the most important to address, is the integration of people, processes, productivity and partnerships to achieve business excellence. In their 4ps model and work with business excellence performance system, they, like Shingo Institute (2017) point to the need for leaders to develop knowledge and understanding of building organizational cultures grounded in guiding principles and core values. A challenge that for many, remains ignored.

This contemporary challenge is ever more important in the changing landscape of business in the fourth industrial revolution and global market economy (Deleryd and Fundin, 2020; Park *et al.*, 2020) in which organizational models are shifting to a more participatory praxis (Fundin *et al.*, 2021). The expansion of quality management in this emerging paradigm (Fundin *et al.*, 2021) is built on the centrality of the human dimension as necessary to achieve sustainable value, both for organizations and society (Laszlo, 2008; Park *et al.*, 2020). This shift is causing leaders to find new ways to develop internal practices that can make their companies competitive and sustainable over time (Isaksson *et al.*, 2023; Mårtensson *et al.*, 2019), while also developing the people dimension of the organization and the core values (Malbasic *et al.*, 2018). New organizational systems need to meet customer needs, while being grounded and stable for building the kinds of healthy work environments for employees that invite innovation and creativity to support sustainable quality development in organizations (Bäckström *et al.*, 2018; Uhl-Bien and Arena, 2018).

This places organizations at a crossroads seeking new ways to meet efficient productivity while at the same time creating work cultures that value the people and planet (van Kemenade and Hardjono, 2019). Researchers in quality management suggest that part of the answer lies in strengthening the role of values and guiding principles in the daily operations of organizations (Mårtensson *et al.*, 2019; Snyder *et al.*, 2018). If leaders are going to bridge the gap and create sustainable quality development in organizations, they need to develop a deeper understanding of the importance of culture and what role values play in sustainable quality development (Cronemyr *et al.*, 2017; Fundin *et al.*, 2023; Mårtensson *et al.*, 2019).

Values are cited as one of the most critical factors for building quality and innovation in business (Fundin *et al.*, 2021; Grant, 2016). Companies that are grounded in clearly articulated values create healthy conditions for employees to be engaged and participate in developing effective solutions to meet the needs of customers (Bäckström, 2019). The question posed in this paper is how can leaders develop value-based leadership for sustainable quality development.

One quality management initiative that supports the integration of values, processes and structure is Lean, named by the researcher John Krafcik (Krafcik, 1988). According to Liker (2004), lean is a concept and change initiative that builds on a strong improvement culture grounded in supportive and highly engaged leadership alongside a strong customer focus. Central to this approach are two core values that guide decisions to ensure quality: respect for the people and continuous improvement. Despite this, studies repeatedly show that leaders too often focus on structure and process at the expense of understanding culture and identity as essential ingredients for achieving sustainable quality development (Shingo Institute, 2021; Snyder *et al.*, 2018). Shingo Institute (2021) reports that over 95% of lean initiatives fail because of this, leaving questions about what it will take for leaders to bridge the gap between theory and practice.

Developers and trainers of the Shingo model for organizational excellence suggest the answer lies in part in understanding how leadership behaviors impact the culture of the organization (Miller, 2014). They argue that developing quality sustainable cultures is based on the actions and behaviors of leaders that support the cultural values espoused by the lean philosophy and the organization. This insight is in line with other studies in organizational culture that recognize the importance of understanding how behaviors are linked to values (Cronemyr *et al.*, 2017; Fundin *et al.*, 2023). Busch and Wennes (2012) suggest that the job of leaders is to make values visible through behaviors. Developing value-based leadership then is not only a question of identifying values within the organization, but it also requires an understanding and connection to the kinds of behaviors that are needed to support the values.

The purpose of this article is to use the key insights on leadership behaviors from the Shingo model to explore how leaders can develop value-based leadership in Lean manufacturing to support sustainable quality development. The context of this article is derived from a meta-analysis of research on leadership in Lean manufacturing in Sweden.

Background

Lean approach to quality: leadership challenge

Lean is a quality management approach and philosophy to organizational development that originated with Toyota in Japan (Liker, 2004). The focus is on reducing waste and enhancing value management within a manufacturing system without sacrificing productivity (Dahlgaard and Dahlgaard-Park, 2006; Park *et al.*, 2020). Lean management is framed around two main pillars that reflect the core philosophy behind quality: continuous improvement and respect for people (Liker, 2004). Liker (2004) describes Lean through 14 principles divided into four parts of a pyramid, the "4 P" model, influenced by Toyota's internal training document "Toyota Way." In this pyramid, the 4 Ps (in ascending order) are, philosophy (long-term thinking), process (eliminate waste), people and partners (respect, challenge and grow them) and problem-solving (continuous improvement and learning). The lean model is described as a house in which the foundation of the house is the Toyota philosophy carried out by three components: visual management, stable and standardized processes and levelled production. The core of the house is filled with a variety of tools and processes including, just-in-time, waste reduction, Jidoka and people and teamwork. Together, the elements are designed to produce the best quality, as defined by the lowest

cost, shortest lead-time, best safety and highest morale. The values or principles, combined with the processes and tools are needed in the organization for the successful application of Lean (Bhasin and Burcher, 2006).

Leaders are crucial to the success of Lean implementation (Dahlgaard and Dahlgaard-Park, 2006; Fok-Yew *et al.*, 2021; Liker, 2004). The manager's role is to develop the culture, which occurs when they get involved in the actual work of identifying waste and value stream mapping (Liker, 2004) and connecting behaviors with values (Shingo Institute, 2021). The connection between leadership and values seems to be important to address when it comes to developing a lean culture in the organization (Miller, 2014). The managers have a great influence on which culture will be predominant in the organization and how the manager acts and behaves influences the attitudes and behaviors of the rest of the employees. This has proven to be a challenge for many leaders who lack an understanding of the important role of cultural enablers, values and behaviors to create the foundation necessary to benefit from the lean processes and deliver value to the customer (Miller, 2014; Shingo Institute, 2021; Turesky and Connell, 2010). The result is unsuccessful lean implementation.

Studies show that most lean transformations fail (Shingo Institute, 2021). This is due to leaders' lack of understanding of the core philosophy underpinning quality management systems (Bhasin and Burcher, 2006; Liker, 2004; Miller, 2014; Spear, 2004; Turesky and Connell, 2010). It is the job of leaders to ensure that the core values are present in the organization and support the inter-relationship between the core, foundation and roof as a system (Liker, 2004; Miller, 2014). Still, leaders focus more on the core of the house (processes) rather than all parts of the system (Spear, 2004; Turesky and Connell, 2010). Further, leaders lack an understanding of the importance of culture as an enabler of quality (Bhasin and Burcher, 2006; Shingo Institute, 2021; Yamamoto and Bellgran, 2010). For example, Halling and Wijk (2013) found in their study of Swedish manufacturing that the human dimension, including social factors and organizing arrangement, was the greatest barrier to the implementation of Lean in the Swedish business context.

Others suggest that behind virtually every Lean failure is a lack of understanding about what it means to lead a culture of transformation (Mann, 2009; Stone, 2012; Turesky and Connell, 2010). As Peter and Lanza (2011) show, the main reasons for applying Lean are cost reduction, fewer defective parts and improvement of delivery reliability, which explains why many attempts fail, as they do not recognize the importance of culture as a variable for transforming the company. Radnor *et al.* (2006) support this perspective and show that the successful application of Lean in the public sector is dependent on organizational and cultural factors, which take time to develop; something that is lacking for many leaders.

Shingo Institute (2021) states that "numerous leaders make the mistake of using short-termism and quick wins to prompt change. But the only way to bring about real change is to adopt new ways of thinking" (website), which are guided by an understanding of value creation. Miller (2014), a developer for the Shingo Institute, points out that sustainable quality development occurs when the lean system becomes part of the organizational culture grounded in values and value-creation. Otherwise, improvement efforts are momentary "sugar highs" that vanish. Customer value creates the guidepost for improvement that is supported by an alignment of cultural enablers, guiding principles and continuous improvement processes. This makes the lean practice highly adaptive as processes are continuously improved to deliver value (Lean Enterprise Institute, 2023).

Importance of cultivating culture

Emiliani (2010) states that achieving "real Lean" requires that two main values, continuous improvement and respect for people, permeate the organization. Rather than approach

change as a long-term goal, continuous improvement is carried out daily through the practice of Lean processes (Dombrowski and Mielke, 2013). This is supported by a commitment to organizational learning at the highest level from which workers and leaders strive to identify root problems and prevent them from reoccurring (Liker, 2004; Shook, 2023). The second pillar, "Respect for the people" represents a belief that employees are a company's greatest assets. It is through its employees that a company can build a culture of continuous improvement. As a complement, Spear (2004) suggests that successful lean implementation is guided by four lessons that include the following: "there is no substitute for direct observation"; "proposed changes should always be structured experiments"; "workers and managers should experiment as frequently as possible"; and "managers should coach not fix" (pp. 84 – 85). Each of these "lessons" invite behaviors by the leader that create a culture of support grounded in the values. Both studies reinforce the need for leaders to develop an understanding of what behaviors are important in the organization to support the values and cultural enablers in the lean philosophy to support sustainable quality development.

Applying Lean needs a deep cultural transformation rather than simply implementing a set of lean tools (Achanga *et al.*, 2006; Bhasin and Burcher, 2006; Liker, 2004 Shook, 2023). The culture in an organization consists of a shared set of values and supporting behaviors (Cronemyr *et al.*, 2017) without which a strong culture cannot be achieved (Ingelsson *et al.*, 2012; Schein, 2004). Martins and Terblanche (2003) define organizational culture as "the deeply seated (often subconscious) values and beliefs shared by personnel in an organization" (p. 65). If the organizational culture is strong (i.e. the same values are shared by many in the organization), it will fill co-workers with energy as well as shape their behaviors and decisions (Grönfeldt and Strother, 2006).

A strong organizational culture is based on two things: a high level of agreement among employees about what is valued and a high level of intensity about these values (Chatman and Eunyoung Cha, 2003). This improves the performance of the organization by appealing to employees' higher ideals and shaping and coordinating behaviors and decisions. Establishing a new or modified organizational culture is a long-term process. Even though modifications of organizational structures can be made rather quickly, creating a shared understanding of the organization's vision and values may take longer as it often requires changes in the behaviors and attitudes of the people (Sinkula *et al.*, 1997; Schein, 2004).

Within Lean, the major way of changing the organizational culture is by doing (i.e. demonstrating values through actions and behaviors) (Shook, 2010). This takes time and thus cultural transformation should be seen as a journey, rather than a project (Drew *et al.*, 2004). All journeys are different and applying Lean is a constantly ongoing process (Bicheno, 2004). Karlsson and Åhlström (1996) state "Lean should be seen as a direction, rather than as a state to be reached after a certain time." It is a long-term commitment and organizations expecting short-term effects may focus on tools and not changing the culture as that often takes a long time. A medium-sized company will need a minimum of three to five years to start practicing a Lean philosophy (Bhasin and Burcher, 2006). According to Emiliani (2010), it will take 5 to 10 years for an organization to practice sustained Lean behaviors.

Shingo model

To support lean improvement and transformation, the Shingo model was developed from the work of Toyota to reflect the integration of people, processes and customer value (Shingo Institute, 2017). The model was designed with the recognition that successful lean implementation is a journey that requires the engagement of all people in an organization (Shingo Institute, 2021). It is not a mere set of tools or processes, but rather a systemic model

(LaHote, 2023) in which foundational principles are built on the people of the organization (Miller, 2014; Shingo Institute, 2017). This reinforces the human dimension within organizations, suggesting that tools and systems alone do not operate a business; people need to know why the tools exist to understand how to use them. Shingo Institute (2017) claims that:

> A common mistake made by organisations is to focus too heavily on a specific tool-set as the basis for improvement efforts. Tools do not answer the question of *why*, only the question of *how*. Knowing the *how* without understanding fully the *why* leaves team members waiting for instructions and powerless to act on their own (Shingo Institute, 2017, p. 12).

In line with the lean house (Liker, 2004) The Shingo model for operational excellence is visualized by the Lean house in which the foundation is set on both guiding principles (Lead with humility and respect every individual) and supporting concepts (ensure a safe environment and develop people). The core of the house reflects both continuous process improvement activities and enterprise alignment (consistency of purpose). The Roof of the house reflects the results that emerge from the quality processes that create value for the customer. The integration of these components is central to the success of sustainable quality development (Shook, 2023).

In more recent years, the development of the Shingo model has focused on understanding how to strengthen leadership capacity to lead lean improvements over time. According to Miller (2014), leaders lack an understanding of the essential link between behaviors and leadership. To address this, the Shingo Institute identified three key insights for leadership, that are essential for the success of lean:

(1) The first insight is that *ideal results require ideal behaviors*: "The results of an organisation depend on the way their people behave. To achieve ideal results, leaders must do the hard work of creating a culture where ideal behaviours are expected and evident in every associate."

(2) The second is that *purpose and systems drive behaviors. Accordingly, Shingo argues that* "Most of the systems that guide the way people work are designed to create a specific business result without regard for the behaviour that system consequentially drives. Managers have an enormous job to realign both management and work systems to drive the ideal behaviour required to achieve ideal business results."

(3) The third insight is that *Principles Inform Ideal Behavior*. According to Shingo, "Principles are foundational rules that govern the consequences of behaviours. The more deeply one understands principles, the more clearly, they understand ideal behaviour."

Building on the work of the Shingo Institute, this article uses the three key leadership behavior insights to explore how leaders can develop value-based leadership and foster organizational cultures that are engaging and contribute to sustainable quality development. Carlucci and Schiuma (2018) state that:

> [. . .] in the new millennium, the creation of value in the organization no longer depends on a mere rationalistic and linear design and functioning of organization's components and processes. More and more it is tied to people's experiences, emotions, and energy in carrying out activities and developing new ideas (p. 342).

Dahlgaard-Park (2012) suggests that core values support co-workers' spiritual and ethical needs, and if those values are not practiced, there will be consequences regarding quality, efficiency and effectiveness. For leaders to develop value-based leadership requires that they

understand the organization's culture, which takes time, and many leaders find it challenging (Gimenez-Espin *et al.*, 2013). Laszlo (2008) suggests that understanding how leaders develop a value-based practice may be central to the development of quality management cultures that are economically and socially sustainable.

Moving toward value-based leadership

Cultivating strong values and culture in organizations requires a leadership that is engaged (Bergman *et al.*, 2022). It is the leader's responsibility to articulate the values of the organization and demonstrate the behaviors in their actions (Busch and Wennes, 2012; Bäckström, 2019; Fok-Yew *et al.*, 2021; Viinamäki, 2009). According to Schein (2004) creating and maintaining organizational culture is the core of leadership and the behaviors of the leaders will affect what culture will prevail in an organization. "The managers need to be present among their co-workers and aware of how their actions affect the possibility of building a strong Quality Management culture" (Ingelsson, 2013, p. 77). Byschko (2007) found that leaders who managed their organizations based on a strong set of core values, which they demonstrated through their behaviors had higher rates of individual and firm performance.

Similarly, Kassem *et al.* (2016) found a positive significant correlation between organizational cultures based on engagement and business excellence. In a later study, Lasrado and Kassem (2021) reported that organizational cultures based on involvement were found to be a mediating variable between transformational leadership and organizational excellence. Malbasic *et al.* (2018) also found a strong correlation between organizational values, leadership and business excellence. Among their findings, six core values were identified as having a positive outcome on business excellence: leadership through mentorship of future leaders; orientation to customers; orientation to employees; continuous improvement culture; pleasing the stakeholders; and corporate social responsibility.

What is evident from these studies is the central role that values and culture play in sustainable quality development and the need for leaders to embody the desired values and behaviors. However, many leaders struggle to achieve this and instead focus on productivity and efficiency measures. Among the leadership theories, value-based leadership emerged to help leaders bridge this gap by identifying characteristics that leaders can possess to embody a strong organizational culture grounded in values (Busch and Wennes, 2012; Copeland, 2014). Value-based leadership is a broad category encompassing among others servant leadership, connective leadership, authentic leadership, transformation leadership, shared leadership and ethical leadership (Chang, *et al.*, 2021; Copeland, 2014). This is to suggest that there is no one definition of value-based leadership, but rather it reflects an important integration of values, culture and leadership.

Busch and Wennes (2012) refer to a set of dimensions of leadership that reflect value-based leadership including making values meaningful and visible, creating moral engagement in the organization (based on House, 1996 in Busch and Wennes, 2012), connecting the goals to the values, behaviors that reflect the values and a language used by leaders to integrate the values in the leadership process (based on Busch and Wennes, 2012 in Busch and Wennes, 2012). As Prilleltensky (2000) claims:

> [. . .] value-based leadership may be conceptualized as a practice aimed at fostering cogent values in consideration of personal interest and degrees of power held by people within an organization and in the group of people it serves (p. 144).

In this paper, value-based leadership is defined as leaders who articulate and make visible the values relevant to the organization and use the values actively to shape and align behaviors with the goals and strategies to achieve quality. Developing value-based

leadership is not simply about adopting a leadership style, as value-based leadership is associated with many different leadership styles (Bano *et al.*, 2020). It requires time and reflection for individuals to identify values that can support the organization and integrate them with the overall work process and tools used to achieve business excellence.

Methods

This article is based on a qualitative meta-analysis of data from the three-year project simply Lean. Meta-analysis is a secondary analysis of primary data, which affords the exploration of new questions on existing data (Timulak, 2014). This method was chosen to synthesize findings from the three years of data collection and ask the larger question: what does it take to develop value-based leadership for sustainable development? Meta-analysis can be conducted using a variety of approaches and methods (Timulak, 2014; Weed, 2008; Shanyang, 1991). In this article, an interpretivist approach (Weed, 2008) is applied in which an analytic framework serves to explore findings from multiple data sources that are combined to answer a more overarching question.

The case

In 2015, a project was initiated in Sweden to better understand the constraining factors in current leadership and quality management to help businesses develop value-based leadership. If leaders were successful in implementing tools and processes from such quality management initiatives as Lean, how could they develop an understanding of organizational culture that was grounded in values? The project was based on a three-year multi-site case study conducted in collaboration with leaders from three manufacturing companies in Sweden. Participating companies were leading actors within the Swedish manufacturing industry applying Lean production. Each of the companies was working with Lean principles and tools and was interested in developing further their leadership practice. One manufacturing company (A) was established in 1994 with over 110 employees. 90% of production was based on export and all manufacturing occurred locally. The second company (B) had over 160 employees and was a Swedish-based production of mechanical components used primarily in the auto industry. The third company (C) had over 300 employees with operations in Sweden and internationally to manufacture and assemble advanced industrial products.

Findings from this three-year study have been published in a series of articles reflecting different dimensions in the complexity of developing value-based leadership (see Table 1). In the spring of 2018, findings from this study were presented in its entirety, in which the application of the Shingo model was explored as an analytic framework. Findings indicated that the Shingo model contributed deeper insights into a bigger question: What does it take to develop value-based leadership for sustainable quality development?

Data sources

Data sources used in the meta-analysis were derived from primary data collected during the three-year project Simply Lean. Data were gathered over the three years using multiple methods including a leadership survey, employee survey about values, interviews and focus groups to examine the current leadership praxis in each of the companies. Appreciative inquiry (AI; Cooperider and Whitney, 2005) and storytelling were used to identify behaviors, language and attitudes embedded in the work culture (Martin, 1992) that reflected constraints and possibilities for sustainable quality development. As a co-creative process, storytelling (Ann and Carr, 2011; Meyer, 1995) was used to share and explore perspectives about leadership in the three companies and identify constraints and possibilities for

developing value-based leadership. Design thinking (Brown and Katz, 2009) was used to frame the research process from the first stages of empathizing to prototyping and testing methods that could be used by the leaders to support the development of value-based leadership.

During the primary analysis, a two-stage qualitative data analysis approach (Alasuutari, 1995) was used. In the first stage, data were analyzed together in a co-creative process with participants to identify themes and patterns from their combined perspectives. Post-it notes were used to group ideas and visualize the themes and patterns. In the second stage, the research team combined findings from the different focus groups and companies, using traditional qualitative data analysis techniques to gain deeper insights into the leadership phenomenon in each of the companies. The case comparisons were used to gain deeper insights into understanding the kind of work culture that was present and to identify ways in which leaders could facilitate innovation and sustainable quality development by enhancing the work culture. Table 1 presents the five sub-studies that were conducted in the project that serve as the basis for the meta-analysis.

Article or conference paper	Purpose	Data collection method
Bäckström, I., Ingelsson, P., Snyder, K., Hedlund, C. and Lilja, J. (2018). Capturing value-based leadership in practice: Insights from developing and applying an AI-interview guide. *International Journal of Quality and Service Sciences*, vol. 10: 4, ss. 422–430	To explore underlying values held by top managers and to identify soft aspects of leadership	AI interview and axial-coding analysis
Snyder, K., Ingelsson, P. and Bäckström, I. (2018). Using design thinking to support value-based leadership for sustainable quality development. *Business Process Management Journal*, vol. 24: 6, ss. 1289-1301	To identify and explore constraints in leadership for working with organizational culture and values	Design thinking approach based on interviews, leadership scale, employee survey
Snyder, K., Hedlund, C., Ingelsson, P. and Bäckström, I. (2017). Storytelling: a co-creative process to support value-based leadership. *International Journal of Quality and Service Sciences*, vol. 9: 3/4, ss. 484-497	To explore the use of storytelling as a tool to identify organizational values and develop value-based leadership	Storytelling as co-creative method and process
Bäckström, I., Ingelsson, P. and Snyder, K. (2017). Enhancing Sustainable Quality Culture. Paper presented at the Canadian Quality Congress, Toronto, September 7–8, 2017	To present and discuss results from a survey aimed to measure a company's value base	Employee survey administered year one and year three
Snyder, K., Ingelsson, P. and Bäckström, I. (2016). Helping leaders develop value-based leadership. *I EurOMA Conference Proceedings: Interactions*	To understand how leaders describe leadership in quality management, the values they use to support their leadership and challenges they experience in developing quality?	Focus groups, interviews, surveys

Source: Author's own work

Table 1.
Data sources used in the meta-analysis

Analytical framework

Three key insights from the Shingo model (see above) were used in the analysis to identify and categorize findings from the meta-analysis into the themes and patterns using the description of the key insights as a guide. Narratives from the meta-analysis were selected to illustrate and examine more in-depth how value-based leadership was developed in the Lean manufacturing cases.

Results and analysis

The result and analysis using the Shingo models are combined and are presented in three sections. The first section is based on insights about the conditions of leadership that need to be addressed to develop value-based leadership (year one). The second section provides a brief description of the process and tools that were used by leaders to develop understanding and awareness about organizational culture and values (years two and three). In the third section evidence of change in the three companies is presented to explore what can leaders do to develop value-based leadership for sustainable quality development (year three).

Section 1: Constraining forces to developing value-based leadership

During the first year of the study, information was gathered from leaders about how they described their leadership and the challenges they faced. What we found related to the first Shingo principle: the leadership was far from ideal with the image that the participants indicated they aimed to achieve. We also found that the purpose and systems that were in place drove the behaviors and that the lack of clear purpose and strategy led to variation in leadership rather than cohesion. This relates the one of the Shingo Model's guiding principles, *Aligning Systems with Principles,* that states "variation in behavior leads to variation in results."

The leaders indicated during a dream and vision-building workshop that they dreamed of leadership that was characterized by a clear sense of purpose and direction, in which the structure supported the behaviors. They sought open communication and decisions that were made based on a long-term plan that would foster sustainable development and a healthy working environment. The reality, however, was far from the dream. From the interviews, focus groups and surveys we found the following prevalent behaviors and conditions among the leaders as listed in Figure 1.

Leaders in this study were constantly putting out fires and made decisions based on quick-fix available solutions. They worked in isolation and lacked a sense of cohesion as a

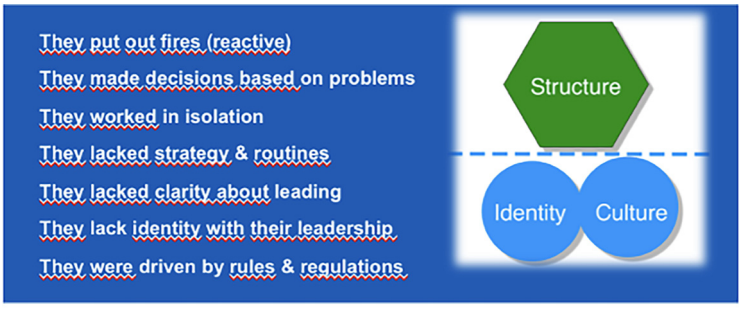


Figure 1.
Prevalent conditions of leadership

Source: Author's own work

leadership team. For many, structures were in place, but routines and strategies were lacking. In general, the leaders lacked an identity about themselves as leaders and members of a leadership team. Moreover, they could not articulate the values that drove their collective leadership. They were strained by a structure that impeded what they dreamed of a proactive, connected leadership team. As Shingo states:

> Cultures that form by accident or without attention can have significant, far-reaching negative effects. A culture built around *firefighting* honours and promotes the *firefighters* rather than identifying and fixing the problems that cause emergencies in the first place. (Alasuutari, 1995: p. 11).

The image in Figure 1 illustrates that structure was prevalent in the conversation, both as a constraining device and as a missing element. Most of the systems that guided the way people work were designed to create a specific business result and failed to consider that the behaviors in the organization would thereby be limited to achieving the business result. The behaviors that were dominant in the three organizations were stress, lack of communication, quick-fix decision-making, decisions made by a few based on accessibility rather than knowledge and lack of ability to articulate what leadership meant to them or why they lead. The system of isolation and a heavy focus on structure to the absence of culture caused a set of behaviors that were less than ideal. Moreover, important dimensions related to identity and culture were non-existent or invisible. This relates to *Shingo's second insight*, "purpose and systems drive behavior." According to Shingo:

> It has long been understood that beliefs have a profound effect on behaviour. What is often overlooked, however, is the equally profound effect that systems have on behaviour. Managers have an enormous job to realign both management and work systems to drive the ideal behaviour required to achieve ideal business results (Shingo Institute, 2017: p. 12).

Another contributing factor to the dominant behaviors appeared to be a lack of identity and clarity about what leadership is and how leaders can impact more than productivity quotas. The purpose and the systems for leadership were lacking. Participants had difficulty to define leadership and describe themselves as leaders. According to Shingo, this makes it difficult the leaders to work as a team to ensure consistent and predictable leadership, which is characterized by common behaviors. One of the trends that was common in the participating manufacturing companies was that most first-line and middle managers were given a leadership position based primarily on years of experience in the company. They were not given any formal leadership training and as many articulated they were left to contend with an internal conflict as managers of their former peers. This made it difficult for them to develop an identity as a leader.

Members of the leadership team also lacked clarity of purpose and guiding principles that were needed to serve both identity and culture. Using a survey-dialogue technique, leaders were asked to identify the company's value; to identify in what ways the values were visible and where they were visible; and to describe how they experience the values. What was evident was a lack of understanding about what a value is. During workshop focus groups, many questions emerged such as "What do you mean by value?" "who's values?" and "Where are the values?" The leaders articulated that they had "come so far as to identify a lack of understanding among themselves about what is meant by value and what they are." In the workshop dialogue, we observed a lack of a common view of both what is a value, as well as why they are necessary and how they might be used by leaders. Further, an insight into the connection between values and wanted behaviors was also missing as well as the understanding that behaviors and attitudes were important to support their mission and goals.

Section 2: Developing leadership through a coaching culture

The third Shingo insight, "Principles Inform Ideal Behavior" is the heart of value-based leadership. During the second and third years of the project, we began to work with processes that facilitated experience and dialogue to identify desired principles and behaviors upon which the value-based leadership could rest. In line with this, the project introduced a series of dialogue activities. The purpose was to help leaders examine and explore current conditions, behaviors and practices, from which to articulate a set of guiding principles. Understanding one's principles requires time to reflect and dialogue, which is part of the identity-building process. Over the three years, we found that dialogue forums had a significant impact on leaders feeling a sense of identity and belonging in their role, as well as a clearer understanding of the values used in their leadership.

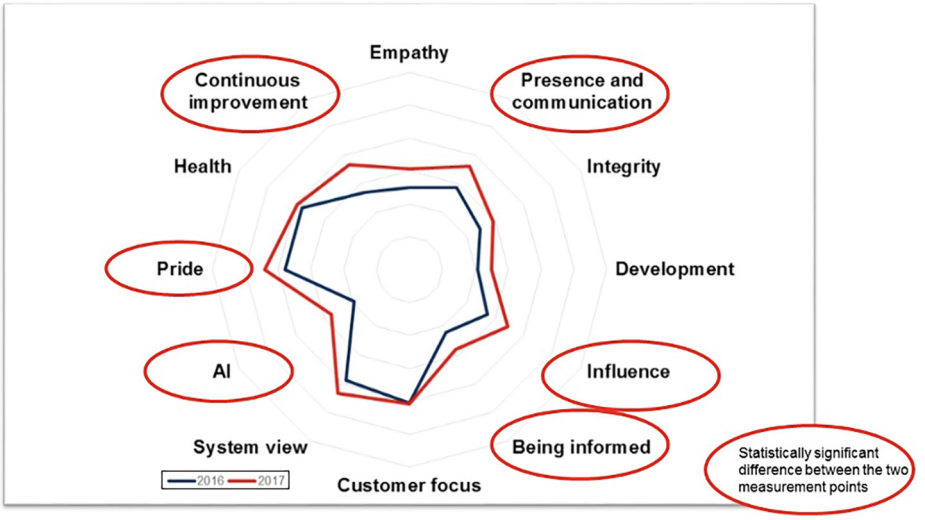
One of the key purposes of the dialogue-based activities was to help leaders explore the *why* behind behaviors and decisions. As Shingo says, "Knowing the 'how' without understanding the 'why' leaves team members waiting for instructions and powerless to act on their own" (Shingo Institute, 2017 p. 14). The combination of activities, including cultural analysis observations and storytelling became a significant tipping point that helped leaders begin to develop a value-based leadership. By the third year, changes began to take shape, resulting in:

- clear rolls emerged from the re-organization of the leadership team that recognized the need for a systemic approach to leadership;
- calmer, happier climate;
- improved communication with co-workers, formally and informally;
- enhanced pride among co-workers; and
- increased connection between co-workers and leaders.

Comments from the leaders reflected a greater sense of involvement and teaming. Among the comments were, "The team has stepped up to the plate and is taking responsibility together"; "We have more of a coaching attitude in the leadership team now. We use questions in a whole different way to support each other and bring forward passion for what we are doing"; "Today I involved the group in dialogue instead of telling them what needs to be done. I provided them information about what needs to be addressed and engage them in deciding what path to take."

An important outcome of this process was the establishment of a coaching culture through storytelling (Ann and Carr, 2011; Meyer, 1995), which helped the leaders shift from firefighting to developing cultures of involvement in which strategies, processes and actions were aligned with guiding principles, which is central to Lean (Spear, 2004) and sustainable quality development (Shingo Institute, 2017). The leadership teams developed internal coaching cultures by formalizing a leadership dialogue forum in which they used storytelling, cultural analysis, value-based employee surveys and peer coaching to support their work. The leadership teams were able to articulate desired values and behaviors, that would later guide their continuous development, including a strong sense of team, loyalty, caring, transparent communication and a strong belief that what they did was important. This is in line with the Shingo model that promotes the importance for companies to establish a set of clear principles to help navigate from current conditions to desired outcomes.

During the third year of the project, changes in the practice and behaviors of leaders were studied and measured using observations, focus groups, interviews and a follow-up survey on quality values. Findings from the survey of quality values (see Figure 2) indicated statistically significant differences between the two measurement points (year 1 and year 3), all positive. This indicated changes in the presence of core values as perceived by the leaders



Source: Author's own work

Figure 2.
Changes in the values present in the organizations year 3

and co-workers. Among the values that were identified as most present in year three were: a sense of pride, communication, continuous improvement and AI (strength-based approach to improvement work).

However, it was not until we presented the findings that members of the leadership team were able to begin talking about the principles that guided them. This was a turning point that opened the door for the leaders to develop a deeper awareness of values and how they could use the values in their leadership. By the end of the project, two of the three companies had developed their leaders toward a value-based practice, which was built on values and guiding principles identified in their leadership team, clear routines and systems for communication, follow-up and decision-making and company ideals that were used to fashion a culture of sustainable quality development. Having a set of guiding principles and a language to talk about organizational culture can help leaders connect the different components in an organization, moving their sole focus from daily operations to understanding how to work with values and guiding principles to support behaviors in the daily operations that promote productivity toward the company's vision and goals.

Qualitative data from the third year demonstrated the following characteristics were found to be important for the leaders to support a value-based approach to sustainable quality development:

- share knowledge by asking questions;
- coach other leaders in leadership;
- talk, talk, talk to people;
- lead by example;
- demonstrates values through actions;
- create clarity about the work of the organization;
- build trust by listening and understanding customer and worker needs;
- create co-worker involvement and commitment;

- balance the relationship between the micro and the macro;
- share beliefs to motivate the *why*; and
- are ultimately responsible.

Discussion

The purpose of this article was to examine findings from the three-year study of leadership in manufacturing companies in Sweden using the Shing model as an analytical framework to explore how leaders can develop value-based leadership for sustainable quality development. The analysis shows that the organizations in this study lacked consistent and predictable leadership before the beginning of the project. For instance, they lacked a common view of value and an insight into the connection between values and wanted behaviors. After the three-year project and working to identify guiding principles, values and behaviors, the leadership shifted from firefighting to designing, aligning and improving systems. The leadership became grounded in shared values and leaders developed a stronger identity and clarity about their role in the organization.

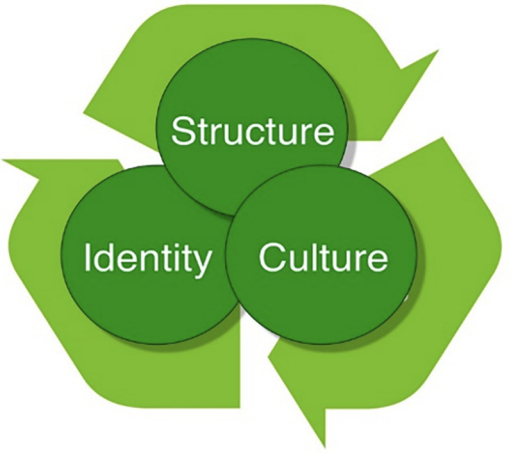
The enhanced presence of values in the leadership, along with clarity of purpose and values, opened possibilities to build a work culture that invites behavioral changes in the organization to support sustainable continuous improvement toward quality. By focusing on behaviors and values, the leaders were able to better align the systems, tools and processes with work culture, which is a challenge for many organizations (Sinkula *et al.*, 1997; Mann, 2009; Shingo Institute, 2017; Turesky and Connell, 2010).

Developing value-based leadership or leadership grounded in values is not simply a matter of adopting a leadership style (Copeland, 2014). It requires time for leaders to develop a sense of identity in their role and reflect on the why behind their actions (Viinamäki, 2009). Leaders in this study reinforced this claim, demonstrating that when people are moved into leadership positions, there is a need for dialogue about purpose, role identity and shared values. As well, articulating values is difficult and complex. If leaders are expected to integrate the organization's values into their leadership, then the values need to be visible and articulated.

Second, developing shared meaning about the values and supporting behaviors also requires dialogue and reflection. As Chang *et al.* (2021) suggest, developing value-based leadership is more than a social process. It involves a language that can be used to both communicate and reflect the values of the organization (Busch and Wennes, 2012). Having a set of guiding principles and a language to talk about organizational culture can help leaders connect the different components of an organization. Participants in this study demonstrated over the three years, how articulating what is leadership and what values and behaviors are important to the company helped to connect identity, culture and structures.

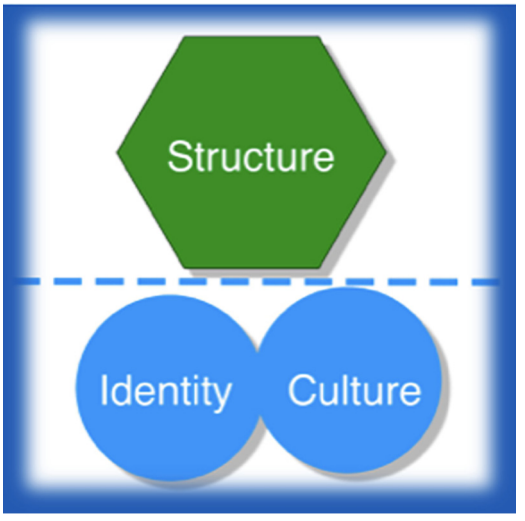
Shingo claims that "when systems are properly aligned with principles, they strategically influence people's behaviours toward the ideal" (Shingo Institute, 2017 p. 17), which serves as the foundation for the organization's culture. Identifying and aligning values, processes, tools and results, is not an easy task and requires among other things that leaders understand the important interconnection between structure, culture and identity (Snyder, *et al.*, 2018; Turesky and Connell, 2010). All too often, leaders focus predominantly on the structures, tools and processes, ignoring the people dimension grounded in identity and culture (Peter and Lanza, 2011). Establishing a new or modified organizational culture is a long-term process, and even though modifications of organizational structures can be made rather quickly, creating a shared understanding of the organization's vision and values may take longer (Sinkula *et al.*, 1997).

By working with organizational culture and guiding principles leaders in this study naturally altered the balance between structure, identity and culture. During the first year, identity and culture were hidden as illustrated in Figure 3 (previously presented in Figure 1). By the end of the project, the language and behavior of the leaders reflected an integration of structure, culture and identity as reflected in Figure 4 below. The integrated model reflects a stronger sense of identity among the leaders about their role in the organization, the purpose and vision. It also reflects an alignment between the values and guiding principles, with the work processes and the importance of the people dimension. This is an important outcome



Source: Author's own work

Figure 3.
(Top) Integration of structure, culture and identity



Source: Author's own work

Figure 4.
(bottom) Fragmentation between structure, culture and identity

and contribution to the literature on successful quality initiatives and demonstrates possibilities for developing value-based leadership to support sustainable quality development. New evidence is offered that is contrary to earlier studies (see, for example, Halling and Wijk, 2013 and Turesky and Connell, 2010) suggesting that leaders can develop value-based practices through dialogue, reflection and articulated shared values.

One of the guiding principles in the Shingo model is that leaders need to go through a personal journey before they can lead others. When they have done so they can coach. The idea behind this principle is that transformation (not mere change) requires that one have an experience to gain insight. By having their own experiences, leaders are better able to coach their staff with an understanding of the *why* behind the need for processes, behaviors and systems. In so doing, the leader exhibits leadership behaviors that facilitate deep transformation in the organization (Spear, 2004). This was a key ingredient that emerged during the third year of the project to solidify a new identity and culture of leadership. Coaching between leaders and from leader to employee was strengthened using storytelling (Ann and Carr, 2011; Meyer, 1995) and created new opportunities for developing the organization's culture through behaviors that supported the company values of respect for the people.

Conclusions

Implementing quality management initiatives, such as Lean, is deeply entwined with values and guiding principles. The structures, processes and tools designed to support the work of organizations are but one of the components necessary for successful implementation. The Lean approach is guided by two main pillars: respect for the people and continuous improvement that are applied to reduce waste and maximize value. On paper, the model reflects a holistic approach. Yet, in practice, application is often limited. Perhaps one of the missing pieces is a lack of dialogue and focus on developing leaders to lead Lean initiatives. In manufacturing, it is common for workers to assume leadership positions based on years of service rather than on leadership capacity. Thrown into the role of leaders, workers often struggle to assume a new identity among their co-workers.

This study provides additional insights into how leaders working with Lean manufacturing can identify, articulate and make visible key values that are central to strengthening the quality management approach (Lean) to business excellence. The foundational principles of lean based on reduced waste and respect for the people provide a solid foundation for leaders to build on. One key ingredient is to identify and articulate the guiding principles and values that can promote ideal behaviors. A second ingredient is to create space and time for leaders to identify the why behind decisions and to reflect on their experiences to be able to lead a transformative process. A third ingredient is to create a coaching culture, in which shared values, behaviors and norms are used to guide and connect work systems with the purpose and goals of the organization. This latter is most critical to developing a quality culture. For organizations to thrive, leaders need to be equipped with the skills and capacities for developing organizational cultures that reflect the values and behaviors desired for the company.

For organizations to thrive in a global economy and meet the challenges of developing sustainable practices for both society and business, leaders need to be equipped with the skills and capacities for developing organizational cultures that reflect the values and behaviors desired for the company. They also need to understand the connection between values, behaviors and organizational processes that are needed to support business excellence. This study provides evidence of how leaders can create value-based practices

through dialogue and reflection, which suggests that bridging the gap to connect sustainable quality management is within reach.

Using the Shingo model as an analytical framework contributed to a deeper understanding of how to develop value-based leadership to foster sustainable quality development in Lean manufacturing. This analytical approach was chosen given the strong relationship that is demonstrated between organizational culture and business excellence in the model. In so doing, this study aimed to make visible the connections between leadership, values and Lean quality management, which are far too often missed. Further research is warranted to gain a deeper understanding of how leaders can connect the development of values and organizational culture to productivity models used in Lean manufacturing. This interplay is essential for achieving sustainable quality development in manufacturing that is reflected by respect for the people and reduced waste.

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