

Management Initiation of Continuous Improvement from a Motivational Perspective

Dag Swartling¹

Division of Quality Technology and Management, Linköping University, Sweden

Bozena Poksinska,

Division of Quality Technology and Management, Linköping University, Sweden

Abstract

Many continuous improvement (CI) initiatives fail since management is unsuccessful in motivating the employees to actively participate in CI activities. In such cases CI often is run by managers and the power of wide participation is lost. The purpose of this paper is to investigate the mechanisms behind motivating employees to participate in CI work. The paper is based on findings from three different cases of highly successful CI organizations within different areas. The findings are that the mechanisms behind motivation for CI can be divided into respect for people and improvement system organization. Within respect for people, there need to be meaningfulness and trust, employees need to be seen as individuals, be given problem based training and education, and be given increased authority and responsibility. Within the organization of the improvement system, crucial areas are: Communication; visualization; and cross-functional, cross-professional improvement work. The paper not only shows which areas are important but explains why they are important from a motivation-theory perspective.

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1. Introduction

Lean Production is one of the most important improvement programs today. Krafcik (1988) coined the term *Lean Production*, popularized by Womack et al. (1990) in the book *The Machine that Changed the World*. The book describes Toyota's production system (TPS) as superior to Western production systems; it requires fewer resources and provides greater quality (Womack et al., 1990). Toyota describes its production system as a philosophy consisting of two primary values: Continuous improvement (CI), and respect for people

¹ Correspondence to Dag Swartling, E-mail: dag.swartling@liu.se

(Toyota, 2001). Sugimori (1977) emphasizes the importance of respect for people within TPS. People are the most important asset, which needs to be respected, developed, and positively challenged. Employees' creativity and knowledge are the basis for continuous improvement (Liker and Hoseus, 2010). CI is the process of creating actual improvements. Respect for people is a prerequisite for employees to participate in the improvement work.

Management introduces almost all improvement initiatives. The management decides about goals and resources, but the improvement initiative's success depends on employee participation and contribution (Kaye and Anderson, 1999). It is especially vital for CI, where employees are key drivers in generating and implementing ideas (Liker, 2004). Without the engagement of employees CI will simply not occur (Dale et al., 2007). Apart from engagement the organization of CI is a problematic area, CI failure is often caused by making it a top-down program (Beer, 2003). Moving from management initiation to employee participation and contribution there must be a transition. This is crucial if the CI system is to achieve wide participation and persist over time (Bateman, 2005). However, this transition often fails. The purpose of this paper is to investigate the mechanisms behind motivating employees to participate in CI work, and how management can use these mechanisms to organize the CI system. This paper's research questions are:

- What are the mechanisms behind creating motivation for CI work?
- How can management create employee motivation for CI?

2. Literature Review

2.1. Definition of continuous improvement

CI is a widely used concept in many organizations worldwide. Contemporary research provides many different definitions of continuous improvement. Different authors consider CI as a part of total quality management (TQM) (Prajogo and Sohal, 2004), a part of Lean (Liker, 2004), or as an independent approach (Lillrank et al., 2001).

Imai (1986) introduced the concept of CI, or Kaizen. CI is defined as ongoing improvements that involve everyone in the organization (managers and workers). In a similar vein, Gertsen (2001) describes CI as "an improvement process that is systematically applied, carried out in small steps, and to a large extent relies on employee participation" (p. 304). Irani and Sharp (1997, p. 199) and Boer (2000) have similar definitions. In contrast, Ehie and Sheu (2005) see CI as an umbrella concept for a wide range of tools and techniques to improve manufacturing performance, such as Lean, Six Sigma, and the Theory of Constraints. We see CI as a part of Lean, Six Sigma or TQM, but also as an approach that can be introduced independently of an improvement program. CI's key aspects are that improvements should be systematic, continuous, cumulative, and rely on employee participation. CI is a long-term process of a stream of improvements and incremental changes integrated and realized in employees' daily work.

Although CI's impact can be significant in the long term, the impact from isolated CI activities is rather small (Bessant, 2003). Irani and Sharp (1997) emphasize that the magnitude of each improvement is not important, but the effort is ongoing. CI can be applied to products, processes, and systems. It is targeted toward improved customer value through improved or new versions of products and services, or improved performance in processes, such as reducing variations, defects, and other kinds of waste (Bergman and Klefsjö, 2003, Liker, 2004, Haikonen et al., 2004).

2.2. Factors influencing continuous improvement

Bessant (2003) proposes a number of factors that are crucial for organizing CI. These factors are: Motivation, availability of “slack” resources, leadership, direction, self-development, enabling tools and resources, communication and information exchange, knowledge management, cross-boundary work, appropriate structures, and teamwork.

Leadership style is one of the most important factors influencing CI. Leaders provide resources and motivation, set specific goals, and exemplify core values (e.g. Kaye and Anderson, 1999, Imai, 1986). Bessant and Francis (1999) discuss management responsibilities, which are important for stimulating CI development. These responsibilities include: Allocating resources such as money, time and space; recognizing the importance of CI; becoming involved in CI development and implementation and leading by example; encouraging learning; and tolerating mistakes.

Haikonen et al. (2004) suggest a set of managerial activities to help develop CI systems. At the strategic level, managers are expected to define, promote, and launch improvement programs. At the operational level, they are expected to organize and provide resources. Despite the responsibilities Bessant and Francis (1999) discuss, developing measurement systems and up-to-date reporting are also important managerial responsibilities. Ahmed et al. (1999) emphasize CI success as an organizational culture that constantly guides its members to strive for CI and a climate that is conducive to learning. Lillrank et al. (2001) state that successful CI must be organized, depending on environment and cultural context.

All the above-mentioned factors can be structured under the two key principles of Lean Production: Respect for people and continuous improvement. Motivation, self-development, and culture are important elements of respect for people. Appropriate structures, enabling tools and resources, communication and information exchange, cross-boundary work, and teamwork are crucial for the CI process. Leadership is an important part of both principles. Respect for people is reflected by leader actions. CI organization largely depends on leaders. In our findings we will analyze the principles “respect for people” and “continuous improvement” from the motivational perspective.

2.3. Human motivation

Liker (2004) claims that all motivational theories are used within Lean. The classic motivational theories are still highly valid. Their bad reputation is largely due to misinterpretation (Hein, 2009). Cognitivists argue that each individual has an internal mental model that affects response to a stimulus. Meaningfulness, which different people interpret differently, becomes vital (Hein, 2009). In the Hackman and Oldham (1980) motivational model, meaningfulness is one of three psychological states. It is built by skill variance, task significance, and task identity. Skill variance is defined as the extent to which the work demands different skills and knowledge. Task significance is defined as whether or not the work is important for the well-being of others. Task identity is about seeing the completeness of the tasks done for the job. It is the difference between forming stones and building a cathedral (Hackman and Oldham, 1980). Two more job characteristics in this model influence motivation: Autonomy and feedback. Autonomy is to what extent an individual can design their own work methods. Feedback is about providing knowledge about the work, preferably from work itself. (Hackman and Oldham, 1980). Work characteristics influence outcomes in the form of high internal motivation, high-quality work performance, high work satisfaction, and low absenteeism and turnover. This is moderated by employee growth-need strength, context satisfaction, and knowledge and skill (Hackman and Oldham, 1980). Growth-need strength is a factor that depends on individual needs. Context satisfaction is whether or not there is anything in the context that makes the individual dissatisfied, such as lack of safety or

low salary. Knowledge and skill is the extent to which there is a match between the job demands of the job and employee properties.

Another important task is eliminating dissatisfaction. Herzberg (1968) and Hackman and Oldham (1980) stress the importance of removing these factors. In the Hackman and Oldham (1980) model, the reasons for dissatisfaction are connected to the moderator context satisfaction. Herzberg (1968) refers to reasons for dissatisfaction as hygiene factors, since their lack can make employees sick and cause demotivation. The impact of different hygiene factors varies in strength. The factor of company policy and administration can cause the greatest dissatisfaction, followed by supervision and interpersonal relations (Herzberg, 1968). Once reasons for dissatisfaction are removed, the motivator factors can build motivation (Herzberg, 1968). According to Herzberg (1968), the three motivator factors that contribute most to motivation are achievement, recognition, and the work itself.

The first step in creating high motivation is avoiding low hygiene factor levels (Herzberg, 1968) or contextual dissatisfaction (Hackman and Oldham, 1980). Once levels are satisfactory, motivation is built through empowerment, challenges, supportive leadership, feedback, achievement, and work. These are still valid assumptions of human motivation, which has been confirmed by several recent studies (see e.g Deci and Ryan, 2012).

2.4. Culture for continuous improvement

Introducing CI, where all individuals participate, generally demands cultural changes. Culture can be thought of as the foundation of the social order in which we live, and the rules by which we abide by (Schein, 2010). It influences both how management is supposed to act and how the respect-for-people principle is practiced. Organizational culture sets the frame for improvement initiatives (Detert et al., 2000, Green, 2012). Different improvement initiatives require changing behavior and values that are influenced by culture. There are often several cultures within an organization. Some of them may support CI, while others actively oppose it (Detert et al., 2000).

Culture can be divided into three different categories, depending on what it comprises: Macro-culture; organizational culture, and subcultures that may cover different professions within an organization. There is also a fourth kind of culture, termed micro-culture, which comprises a micro system consisting of several subcultures within or outside an organization (Schein, 2010).

Culture is continuously shaped and re-interpreted. Leadership is the main force that shapes culture (Schein, 2010). Although culture is dynamic in nature, it also provides stability since it provides rules and guidance on how to behave in the organization and what to expect from other organization members.

There is inertia in culture, which means that previous management actions influence the current culture, and present management actions will influence the future culture. Macro-culture is relatively stable and doesn't change very quickly. The strength of organizational culture varies from more or less absent, to a strong guiding principle for all decisions (Hamada, 2000). The strength of subcultures also varies between different groups. Micro-culture is the most dynamic kind (Schein, 2010). The influence from leadership is stronger on the organizational and micro-cultures and less strong on subcultures.

3. Data and Method

This paper presents results based on three case studies performed in organizations that were successful in implementing the Lean improvement program. The three cases represent one drug manufacturing company, one municipal authority, and one healthcare organization. The

reasons for choosing these organizations were that they are both highly successful and at the same time operate in different environments. By choosing three different types of organizations it was possible to investigate if the mechanisms behind employee participation in CI differs between organizational type or is more generic.

The drug manufacturer is a global biopharmaceutical company. The company has a long success story with one of the top-three selling drugs worldwide. We studied the largest manufacturing and supply unit within the group. The incentive to work with Lean Production was to improve efficiency, since moving production to low-wage countries was a possibility. The drug manufacturer has won the Swedish lean-prize in 2008.

The municipality has 16,000 inhabitants. We studied the unit responsible for providing elder care. In 1992, the municipality was in a deep crisis. The new head put demands on all units to reduce their cost by 15 percent without reducing staff. It is regarded as the most innovative municipality in Sweden and there is a steady stream of visitors from other municipalities that wants to learn from them.

The care center provides primary healthcare services for approximately 2,500 people. It has approximately 25 employees: Doctors, nurses, dieticians, and secretaries. The center had difficulties with many employees experiencing high levels of stress. Lean production was initiated to improve the work environment. The care centre is regarded as one of very few lean care centers in Sweden and acts as a role model for other care centers.

The choice of the case organization has a healthcare focus. All three organizations are connected healthcare, although the drug manufacturer produce products and the municipality and the care center produce service. The organizations differ in size where the department at the drug manufacturer is considerably larger. Although all three organizations are regarded as successful CI examples the drug manufacturer was expected to be skilled at CI having won the lean-prize. The problems associated with different professional groups were expected to be more evident at the care center.

The case methodology was chosen since it allows for a detailed understanding of the concepts under investigation and provides the possibility of studying the phenomena in a real-life context (Yin, 2003). Since the respect-for-people principle is difficult to capture in a survey, the case study (with interviews as a primary data-collection method) was a reasonable choice.

The interviews were semi-structured. The option for follow-up questions was commonly used. All interviews were based on the same template, but the questions were adapted to the respondent in terms of position and experience. The questions were partly based on QPS Nordic and included questions such as: Why they started with Lean, how the improvement work developed over time, who were the managers and their roles, what they thought of the Lean work, what were the results, and how mistakes and problems were treated. The interview can be seen as either looking for vital pieces of information hidden within the respondent or that knowledge is created by interaction with the respondent (Kvale and Brinkmann, 2009, Bryman and Bell, 2007, Yin, 2003). In this case, the interviews were mostly looking for vital pieces of information. We spent two days working in the drug manufacturer's factory before the interviews to get more knowledge concerning the situation on the work floor. This approach often provides valuable understanding of the specific workplace (Kvale and Brinkmann, 2009).

Table 1 - Interviews performed at case organizations

Interviews		Total
Drug manufacturer	One factory manager, one production manager, three first-line managers, six operators	11
Municipality	One facilitator, one quality manager, two managers for elder care, four elder-care employees	8
Care center	One head (doctor), two doctors, three nurses	6

Participant observations were also made at several CI meetings, using structured field notes (DeWalt and DeWalt, 2002). Finally, company documents, such as strategies, documented procedures and instructions, underwent qualitative content analysis. The data-collection methods were combined to offer multiple data sources.

4. Results

Building CI systems is not only a matter of creating new processes and structures, but also involves re-thinking the practices, roles, and responsibilities of each individual within the organization. There is a need for a new culture where employees contribute to developing the organization. The strategy of the case organizations was to allow as many employees as possible, regardless of status or position, to contribute to CI. The contribution of everyone is closely linked to respect for people, since respect and fair treatment increase individual willingness to participate in CI (McGregor, 2006). The first part of the findings covers how management, by respecting people, can contribute to increased employee motivation. The second part covers how CI organization can affect employee motivation. Research question one and two are treated in the same paragraphs, first the mechanism is described followed by how management can use it.

4.1. Respect for people

4.1.1. Meaningfulness and trust

Why would employees change the way they see their work and start working with CI? Motives for implementing Lean Production in all three cases focused on employees needs and gaining their trust. At the care center, the change focused on reducing stress and making it more fun to work. At the municipality, all CI work was based on problems experienced by the employees. At the drug manufacturer, CI work was initiated to reduce the risk of employees losing their jobs due to moving production to low-wage countries. It focused on solving problems that employees experienced. In all cases there was an answer to the question “What is in it for me?” which is an unavoidable question when improvement programs are introduced (Hackman and Oldham, 1980).

CI programs can be seen as a marketplace where employees contribute by participating in the CI work and receive something in return, although the currency is not money. The exchange needs to be fair, and there must be trust between those who participate in the exchange in order for the transaction to take place. A lack of trust can spoil attempts to introduce a CI system (Ford et al., 2008). To some extent, trust has the characteristics of the hygiene factors that Herzberg (1968) notes. It needs to reach a satisfying level, with no distrust. However, above that level, increased trust produces smaller contributions.

There need to be or need to be built trust between management and employees. Management need to act trustworthy and fair. Management also need to consider the needs of the employees when designing the CI work so that there is a satisfying answer to the “What is in it for me?” question.

4.1.2. See employees as individuals

In all three cases there was a change in interaction between managers and employees. Before the CI process was initiated, the managers were invisible and only supervising if employees were fulfilling their tasks. In the process of building the CI system, management's role changed from controller to enabler. The managers became present and active in supporting daily operations and activities. Creating motivation and building relationships with employees became an important management task. At the care center, the managers started to participate in coffee breaks and have informal talks with the employees. The managers at the drug manufacturer started socializing more with the employees, learning the names of their children, pets, and about their hobbies.

"It is so much more important than you think to know the name of the operators children, or the name of the dog or something like that, you can have a conversation and see them as people and not just always as the working person" (First line manager drug manufacturer).

In all cases employees were given new tasks within the improvement work based on interest and competence, not education or formal position. The new challenges gave possibility for increased competence.

Managers need to see the employees more as individuals and challenge, provide intellectual stimulation, and increase self-confidence among employees. This can be achieved by getting to know better the employee, his/her attitude towards challenges and competence within CI.

4.1.3. Problem based training and education

Organizational training and education was the starting point for building CI systems. At the drug manufacturer, there were special mobilizing days. Employees and managers played games and reflected on the results. At the municipality care centre there were meetings where improvement methods were taught and goals and values discussed. The most important purpose of the training was not only to educate employees in guiding principles, methods, and problem-solving tools, but to question the current system and start a dialogue about employee roles in CI and the organization. The strategy was to increase employees' opportunities to participate in various meeting arenas. In these meetings, specific questions, challenges, and opportunities were identified, discussed and solved in dialogue and collaboration with co-workers, managers, and other employees. In all cases methods were introduced one by one as a response to a specific problem. Long change over times at the drug manufacturer was solved by introduction of SMED. Spending a lot of time looking for items needed were solved by using 5S at the municipality and freed time was used to improve the care.

"Are there many people that died during Christmas?"

No, why do you think that?

There is no one running in the hallways anymore, earlier you ran back and forth, now there is no running, are there are many that has died?

*No, no one has dies but now we don't run in the hallways we take care of you instead **Oho**"* (conversation between inhabitant at home for the elderly and nurse).

That the same task was done several times was solved by standardized processes at the care centre.

Education in methods and tools allows employees to increase their knowledge and expand their competence. Knowledge and skill is one of the moderators in the Hackman and

Oldham (1980) model. Increased knowledge and skills connect job characteristics and the outcome, such as increased internal motivation.

In all cases these activities created motivation for CI and, to some extent, changed employee attitudes, values, and behaviors. The employees started to change the way they looked at their own role in the organization. They previously found that their only task was to complete their assigned work. They then started to think about both completing the assigned work and working with CI. From a motivational viewpoint, learning new knowledge and building new competencies greatly fulfills the growth-need strength of the employees (Hackman and Oldham, 1980). Much work was put into the company policy, defining and actively using values and changes in management behavior. Both of these actions affected the hygiene factors (Herzberg, 1968) and removed reasons to be unmotivated. The changes of roles in the organization made it easier for employees to see their part in the whole system, increasing the task identity, and making work more meaningful (Hackman and Oldham, 1980).

From a managerial viewpoint it is important to understand that is not a matter of introduction of different tools but to start changing how employees regard their work. Problem based approach will make the change in work role easier since the employees are given responsibility for finding the problem which in itself is a new task.

4.1.4. Increased authority and responsibility

Individuals or teams were responsible for the whole improvement process, from idea generation, to implementation, to evaluation. At the drug manufacturer, different activities were developed to enhance CI stages. These activities included idea generation, evaluation, implementation, and follow up. All employees were encouraged to submit ideas, which were reviewed at weekly meetings with all members from the ordinary working team. In these meetings, the team discussed the submitted ideas, planned their realization, and followed up on the status of previously submitted ideas. The employee who generated the idea was usually also responsible for realization, owning both idea creation and realization, and being able to see the whole process from idea to result. Operators could leave production boxes to work on their ideas when the situation permitted. Their responsibility included undertaking studies and investigations to gather necessary information to realize the ideas. If they needed help from the engineering department, it was their task to contact the right person.

At the municipality, CI was extremely local and employee-driven. The employees were to find the problems with which they wanted to work. A group of employees was responsible for the whole work, from investigation to implementation. The group was empowered to implement their solution. A Lean coordinator provided support with tools and methods. The manager was deliberately kept out of the improvement team so that the solution could reflect the views of the employees rather than management.

At the care center, three cross-professional groups were formed, each one responsible for improving a patient flow. Each improvement group made a value-stream map and initiated improvements within its patient flow, having the responsibility and authority for managing and developing the flow. The manager worked deliberately with empowering the employees

“I try not to tell them how to do but to being more of a coach instead” (Manager care centre)

As the results show, the organizations empowered employees and gave them more autonomy in the form of increased authority and responsibility. The managers stopped solving problems themselves, and instead provided employees with the necessary tools and

knowledge to solve problems. They coached employees in ways that nurture their growth and brought out their creativity and potentials to support the organization's goals. This increased motivation both through more skill variance and increased autonomy (Hackman and Oldham, 1980).

Empowerment is best achieved if employees feel they have a choice in how tasks are performed, and believe they can personally influence the outcomes (Dobni, 2006). The responsibility for the whole improvement process was also important to increase task identity, since employees could see how their work contributed to the final result (Hackman and Oldham, 1980). Apart from increased task identity, the full responsibility for improvements also gives employees a feeling of achievement when seeing the result (Herzberg, 1968).

From a managerial viewpoint there is a need for being able to change to a more supportive role and gradually let the employees take a bigger responsibility.

4.2. Organize continuous improvement work to improve motivation

4.2.1. Communication

One way to influence employee values and attitudes in a positive way is by effective communication (Bessant, 2003). Most change programs in organizations fail because the understanding of goals that emerges is often different from what the management intended (Denning, 2010). In a traditional organization, communication is usually one-way, from managers to employees. This was the case in the organizations we studied. Communication was limited to giving directions and providing information. The organizations introduced two-way communication in order to build the CI system. Both formal and informal communication increased. Instead of just informing by email, documents and notice boards, information was passed along in meetings and by personal communication. The idea was to receive direct feedback from employees and develop relationships and interactions. The fact that the employees were the source of information increased their visibility. The need for recognition and increased self-esteem was fulfilled (Maslow, 1998). The drug manufacturer and care center introduced daily short meetings to keep everybody informed about current activities and problems. Discussing different issues of daily work created meaning for shared goals and values. Managers need to design a communication system that is fast and based on short meetings where information flow upwards in the hierarchy.

4.2.2. Visualization

All the organizations used different means for visualization. Whiteboards showed the status of the CI work and the organizations' goals. The most advanced example was at the drug manufacturer, where a set of whiteboards visualized the current status of operations and CI activities. Improvement work was visualized at all levels. For example, all cross-functional improvement projects were monitored on one whiteboard, where the state of the different projects was displayed with magnetic dots in different colors. The team met once a week around the white board to discuss the progress and necessary work to realize different ideas.

The visualization had several aims. Among these were clearly communicating important information to employees and receiving feedback. Whiteboards were an effective way to get an overview of the situation and engage employees in improvement activities, as well as management of the daily work. From a motivation point of view, the visualization both enhanced feelings of empowerment (Hackman and Oldham, 1980) and made CI achievements visible (Herzberg, 1968).

When management designs a visualization system this will act as an aid for the short meeting mentioned in 4.2.1 and also act as a pace-setter both for production and improvement work.

4.2.3. Enhance collaboration across functions and professions

In all three cases, employees in different areas had little access to, or knowledge of, the work carried out by other departments or professions. In order to build the CI systems, the organizations needed to question the traditional functional approach and build structures that enhanced more cross-professional collaboration.

Within the care center, there were different occupational groups, such as doctors, nurses, and dieticians. Three CI teams were established, which included all employees and all occupations. A new micro-culture formed in the CI teams, which was easier than a subculture for management to influence (Schein, 2010). Interviewees stated that the biggest benefit of CI was increased cooperation between different professions, which positively influenced both CI and the daily work. Employees started to think in terms of “How can I facilitate the work for the next person in the process?”

At the drug manufacturer, focus shifted towards making things as easy as possible for operators, which was not the case previously. For example, quality and process departments decided how the work should be performed without concern for employee difficulties. Breaking the old structures and building collaboration between different employee groups provided more task identity (Hackman and Oldham, 1980) and improved interpersonal relations (Herzberg, 1968).

An individual’s thinking is affected by different groups to which the individual belongs (Lewin, 1947). Different occupational groups often establish their own subcultures (Schein, 2010) that primarily look to satisfy their own interests. This needs to be considered by management when designing the improvement system. This needs to be considered by management when designing the improvement system. In a situation where there are subcultures, management needs to reduce their influence by creating new constellations of groups.

5. Discussion and Conclusions

Based on the cases this paper identifies eight mechanisms that create motivation for CI work. These mechanisms can be divided into respect for people and organization of CI work. How management can use these mechanisms is described in concurrence with the description of the mechanism. These mechanisms ease the transformation from managerial push to employee pull. Managerial push refers to activities that management performs to build CI system: Setting goals, providing training and resources, demonstrating support, and communicating with employees. As the CI system matures, managerial push is replaced by employee pull (Shiba (1993)). This shift arises when organizational members understand the goals and benefits of CI and commit themselves to improvement activities.

Management plays a vital role for creating motivation and commitment for CI. Both social interactions and the level of management skills are important. If interaction with management is poor, it can be a factor in context dissatisfaction. In order to prepare for the transition to employee pull, management needs to consider a multitude of aspects regarding how to treat and interact with employees, and how CI work ought to be organized.

5.1. Respect for people

Within respect for people five mechanisms that create motivation for CI work has been identified; trust, meaningfulness, see employees as individuals, problem based training and education, and increased authority and responsibility.

First, there must be trust if employees are to engage in CI. If there is mistrust and an expectation that management will use CI to reduce the workforce or exploit employees, there

will be little or no motivation. Therefore, trust is a basic foundation. To build trust managers need to have high conformance between rhetoric and actions combined with a constancy of scope.

Second, the improvement work need to be meaningful from an employee perspective. The question “What’s in it for me?” need to have a satisfying answer. There are several possibilities, like for instance solving experienced problems, different types of appreciation, being challenged, and personal growth. Management need to consider the needs of the employees when designing the CI system.

Third (which is related to first and second), observed changes in management style towards more interested in the individual as a person builds a relationship that both increases trust and fulfills the basic need is to be seen as an individual. Managers change from giving orders and being rather absent towards a coaching leadership style and interacting more informally with the employees.

The first second and third mechanism in combination makes the employees more positive towards starting to work with CI and need to be present during all stages of the CI work. However as CI starts to evolve other mechanisms are more in focus.

Fourth, when the initial motivation for CI is created, the next step is to help employees succeed. Training and education are important in this respect. They extend knowledge, competence, and capability to drive CI. As employees become more skilled at CI work, their motivation increases. CI also requires a new management style that changes from controlling and commanding to focusing primarily on motivating and inspiring employees. Managers’ primary role is to support and coach employees to focus their energies on CI to achieve the desired goals. The employees then feel more visible and appreciated, which increases their motivation (Maslow et al., 1998) Hackman and Oldham, 1980).

Management also needs to understand there is no one-size-fits-all solution. Each organization need to build their own CI system, based on their culture and context. One frequent failure with building CI systems is implementing a readymade package of tools (Lillrank et al., 2001). Every organization has its unique problems, which require different solutions. From a motivational viewpoint, employees find it easier to accept the introduction of new tools if the incentives for improvements are concrete problems that they understand and are eager to solve. Employees need to feel that CI will somehow benefit them. As our results showed, the motivation for CI increases if the focus is on employees and they feel they can improve their own situation

Fifth, the motivation is positively influenced if employees are made responsible for the whole improvement process, from idea generation to follow up. The results also show that employees are more likely to participate in CI when they receive greater autonomy and control over their work. Responsibility for CI and greater autonomy create increased task identity and a feeling of ownership. Employees feel that the improvement and the achievement are theirs. CI activities make work more challenging and provide more variety, which also has positively influences motivation (Hackman and Oldham, 1980; Herzberg, 1968). Management need to organize CI so that one individual or group has an ownership of the improvement from start to follow up.

5.2. Organization of continuous improvement work

Motivation among employees is also affected by CI system design. There are three mechanisms, communication, visualization, and collaboration across functions and professions.

First, how communication is organized will affect motivation. One part of this is short daily meetings where employees report the current situation. Such a system will improve communication, put more focus on the employees, and improve the interaction between managers and employees. This will have a positive effect on motivation. Another part of improved communication is an increase in informal communication between management and employees. The managers engaged in more informal communication, spent time at the employees' workplaces, and listened to opinions and ideas. They built social bonds, which were positive from a motivational viewpoint (Maslow et al., 1998, Herzberg, 1966).

Second, visualization. Visualization shows mission, vision, and policy deployment giving the direction and purpose of the improvement work. Increased understanding of the vision and how different activities contribute increases meaningfulness. It can also be a follow-up tool showing ongoing activities and achievements. From a motivational point of view, the visualization of mission, vision, and policy deployment increases task identity and meaningfulness (Hackman and Oldham, 1980). The visualization of achievement provides both an exposure of achievements and feedback.

Third, it is important that management organizes the improvement work across functions and professions. This increases motivation through increased task identity (Hackman and Oldham, 1980). Individuals can see their part in the whole value chain and understand how and where their work contributes. Individuals from different departments and occupations will be on the same CI team when organizing improvement work along processes. This reduces the influence from subcultures and creates a micro-culture that is easier for management to influence. Since the subculture often wants to preserve things as they are, reducing their influence will reduce change resistance. The results also show that employees are more likely to participate in CI when they receive more autonomy and control over their work, which will increase motivation.

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