How Can the Organizing Work Involved in the Joint Regulation of Lean Projects Promote an Enabling Organization and Occupational Health?

Comment le travail d'organisation de la régulation paritaire lors de l'implantation de la *Lean production* peut permettre l'émergence d'une organisation capacitante?

¿De qué manera el trabajo de organización requerido por la regulación conjunta de proyectos de racionalización (*Lean Projects*) puede promover una organización habilitadora y la salud ocupacional?

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Volume 73, numéro 1, hiver 2018

URI : <https://id.erudit.org/iderudit/1044428ar>

DOI : <https://doi.org/10.7202/1044428ar>

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Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)

1703-8138 (numérique)

[Découvrir la revue](#)

Citer cet article

Bruère, S., Bellemare, M. & Caroly, S. (2018). How Can the Organizing Work Involved in the Joint Regulation of Lean Projects Promote an Enabling Organization and Occupational Health? *Relations industrielles / Industrial Relations*, 73(1), 93–116. <https://doi.org/10.7202/1044428ar>

Résumé de l'article

L'objectif de cet article est ici de mieux comprendre, par le biais d'une étude empirique, les actions et les décisions prises dans le cadre de transformations organisationnelles vers une production au plus juste (*lean production* en anglais) faisant l'objet d'une régulation paritaire (Lévesque et Murray, 1998). Notre démarche consiste à identifier des facteurs qui peuvent permettre aux acteurs syndicaux de participer aux actions et aux décisions prises pour organiser le travail, lors d'un de ces projets de rationalisation, afin d'aider les travailleurs à développer un plus large éventail de saines habitudes et méthodes de travail.

Notre postulat est que les facteurs qui exercent un effet sur la régulation paritaire, tels que la capacité d'action du syndicat, l'attitude de la direction et les buts visés par le changement, influent également sur les résultats des projets de rationalisation en terme de santé au travail. Nous pensons que le travail d'organisation nécessité par la régulation paritaire (les actions et les décisions) joue un rôle de médiateur sur ces facteurs et, en conséquence, sur les résultats en matière de santé au travail. Notre question de recherche est donc la suivante : Quelles sont les actions et les décisions qui peuvent permettre que la régulation paritaire lors de l'implantation d'une rationalisation (*lean production*) conduise à un rapprochement vers une organisation capacitante?

Cette recherche empirique est de nature exploratoire et repose sur une étude de cas multiples. Deux cas de projets de rationalisation ont, ainsi, été documentés grâce à huit entretiens individuels et une collecte documentaire.

Les principaux résultats indiquent que la régulation paritaire, bien qu'elle semble indispensable à la réussite de ces projets de rationalisation en termes de rapprochement vers une organisation capacitante, n'est pas suffisante. Toutes les parties prenantes se doivent de participer à la définition des buts des projets, de leurs modes d'évaluation et de leurs règles de gestion, de manière coopérative et transparente, et ce, grâce à leur implication dans les décisions au cours de tous les processus.

How Can the Organizing Work Involved in the Joint Regulation of Lean Projects Promote an Enabling Organization and Occupational Health?

Sébastien Bruère, Marie Bellemare and Sandrine Caroly

The objective of this article is, through an empirical study, to further understanding of the actions and decisions taken in the context of Lean implementation projects carried out under joint regulation agreements. We therefore attempt to identify factors that may facilitate the organizing work involved in joint regulation of Lean projects to allow workers to develop a broader range of health-minded work methods and habits. Although joint regulation appears essential to the success of projects in terms of meeting enabling organization criteria, it is not alone sufficient enough to prevent adverse health effects of Lean projects. All stakeholders need to define the project goals, modes of assessment and management rules, both cooperatively and transparently, and through their involvement in decisions regarding all processes.

KEYWORDS: lean, joint regulation, organizing work, enabling organization, occupational health.

Introduction

The exploratory and descriptive study documented in this article was based on three initial premises. First, Lean is a mode of work organization that has been deployed in recent years in Quebec, not only in industry, but also in the public services sector. Since the late 1990s, this mode of organizing production has been recognized as having adverse health effects, including musculoskeletal disorders and stress, both of which are fast on the rise. Second, some researchers see the establishment of joint regulation in Lean projects as an avenue for preventing

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these health effects. Third, in a context in which the proponents of Lean may suggest that the direct participation of workers rules out union involvement, trade unions are demanding a better understanding of the relationship between joint regulation of Lean projects and occupational health. In this way, good practices may be adopted to counter the adverse health effects of these projects.

In this article, we examine the relations between these three initial premises in greater detail and describe the theoretical framework and methods used. Both were based on a multiple case study design. Lastly, we present our results by providing an overview of the cases studied, their outcomes, and the actions and decisions (organizing work) observed in the joint regulation of Lean projects. We conclude with a discussion of these results.

Problem

The problem targeted in this research project arises from the fact that, on the one hand, Lean management has undergone extensive development and appears to cause health and safety problems in the workplace, and that, on the other, it involves direct employee participation, suggesting that the forms of joint regulation of change involving union actors may have become obsolete.

The Lean method comes from the Toyota Production System. It was conceptualized as Lean Manufacturing by American researchers in the International Motor Vehicle Program (IMVP) at the Massachusetts Institute of Technology (MIT) during the 1980s (Womack, Jones and Roos, 1991). Since the mid-2000s, it has been experiencing a resurgence of interest, even outside the industrial world, as well as institutional support in Quebec for extending it to small and medium-sized enterprises (Toulouse, Nastasia and Imbeau, 2005) and to the public healthcare system. Lean is a method of streamlining production centred on eliminating waste. This struggle to eliminate waste (known as *muda* in Japanese) is waged through a participatory continuous improvement process (*kaizen* in Japanese). Dozens of tools exist for implementing Lean, but they are not all implemented in companies and can be deployed in various ways. Lean therefore covers very diverse realities in companies. To qualify an organization as Lean, Shah and Ward (2007) propose the criterion of the presence of tools and organizational practices grouped in four “bundles”: just-in-time (JIT), total preventive maintenance (TPM), total quality management (TQM) and human resource management (HRM). A literature review (Bruère, 2014) shows us that, despite the good intentions expressed by proponents of Lean, many studies suggest that the introduction of Lean causes a deterioration in working conditions and health (increased stress and occupational injuries).

The participatory nature of Lean implementation projects raises questions about the role of union actors because companies can solicit employee participation

directly with no union involvement (e.g. Green and Yanarella, 1996; Moody, 1997; Pichault and De Coster, 1998). Several studies have questioned which of the two are more effective from the standpoint of worker health: Lean projects with trade union involvement or those without? Some authors have shown that the lack of joint regulation makes it difficult for Lean projects to succeed or that it causes health problems (e.g. Lee, 2003; Lewchuk and Robertson, 1996; Lewchuk and Robertson, 1997; Lewchuk, Stewart *et al.*, 2001). However, authors who have studied the presence of joint regulation of Lean projects have obtained ambivalent results, with some seeing it as positive for employee health (Johansson, Abrahamsson and Johansson, 2013) and others not (Stewart, Durand *et al.*, 2006). While joint regulation of Lean projects appears necessary to prevent adverse health effects, this factor alone is not sufficient to explain the relationship between joint regulation and health. The question of interest here is this: Which actions and decisions involved in joint regulation can make a Lean project conducive to worker health?

Joint regulation of change, organizing work and enabling organization

To answer this question, we must define several aspects: what are the characteristics of a mode of organization that is “good” for health? What concepts should be used to describe the actions and decisions that construct the rules defining this mode of organization? And lastly, what are the different forms of joint regulation and the factors that influence them?

An enabling organization: an organization that promotes occupational health

The concept of the enabling organization (Arnoud, 2013; Coutarel and Petit, 2009; Daniellou and Coutarel, 2007) stems from the encounter between Reynaud’s (1989) theory of social regulation and Falzon’s enabling environments approach (2014).

Its emergence has its origin in the search for an organization combining health and performance.

It is based on the health approach of the philosopher Canguilhem (1963), who proposes the need to go beyond a static vision of health that considers “being healthy” is “not to be sick”. For him, health is a capacity for greater control of the person over his environment. The person controls his environment sufficiently to overcome the problems associated with transformations of it. In this context, being healthy means being able to act on the environment and its variations. It means that in the field of work, to be in health, the worker, when the organization

allows it, will carry out actions allowing him to control his environment. He will also be able to build new strategies of actions allowing him to keep control, to perform, despite the variability of work situations. According to the definition of health by Canguilhem, taken up by Clot (1998) and Falzon (2013), being healthy means being efficient in the work situation in which the worker finds himself, with possibilities to act or the possibility of inventing new ways to do his tasks.

Following Fernagu-Oudet (2012), it can be argued that the process of constructing actions (Figure 1) plays an important role in controlling the environment. This process has a meaning, an intention given by the person who acts. It is located because it is intimately linked to the resources present in the environment (including work organization). It is social, by the fact that the course of its realization is constructed by the gaze on others, through the development of possibilities of actions that the worker will do or not, depending on his opportunities and choices (Clot, 1998).

In this sense, if we take Barcellini's (2015) definition of enabling work organization, we can supplement it by indicating that an enabling organization is an organization in which the formal rules aimed at the coordination of the actors of the organization by human supervision, as well as technical devices, allow the achievement of the company's objectives while allowing the development of possibilities of action and hence the health of the workers.

Arnoud (2013: 303-304) identifies three organizational processes that characterize an enabling organization:

- The organization of work-related discussion forums that foster cooperation, negotiation and group reflection. Specifically, these forums allow for the comparison and sharing of knowledge and for better understanding of the challenges posed by work situations, thereby enabling workers to identify strategies for avoiding situations beyond their capacities.
- Cooperative management, which involves employees in decisions by using information about the real work performed. Using information about the challenges faced in the work, managers and employees can make decisions that avoid creating work situations which exceed the workers' capacities.
- The promotion of both individual and group learning through the co-construction of a common framework for action using knowledge exchanges about real work and by providing opportunities for formal and informal learning. This learning allows workers to gain skills and cope with the demands posed by work situations.

These three characteristics of an enabling organization's *modus operandi* all revolve around the discussion and exchange of practices, with a view to co-constructing rules. It is through these discussions and exchanges about the real

activities performed that new opportunities for action can emerge at both the group and individual levels. Furthermore, to promote the discussion and comparison of differing viewpoints, the organization leaves the door open to reconstructing its own rules. Through discussion forums, participants gain awareness of techniques or organizational tools that are available but not used. At the same time, empowering workers to act can lead to the development of new resources. An enabling organization is thus an organization that implements explicit mechanisms for discussing, comparing and co-analyzing work, which in turn allows for the re-creation of its own rules.

Organizing work

The concept of “organizing work” (Now OW) (de Terssac, 1998, 2003, Terssac and Lalande, 2002) has been initiated by de Terssac and poses in a triptych the workers, actions and rules. This concept, derived from Reynaud’s (1997) theory of social regulation, allows a group of organizing activities to be grouped together in the same category. There are, on the one hand, professional scientists, managers, method engineers, quality engineers, equipment designers, supervisors, candidates, organizers of the activity of the other. They determine, for a good part, the characteristics which define the work. On the other hand, we find the organizing activities of all individuals, who are present in all types of professional activities: the work activity (strategies and operative compromises) that a worker deploys to carry out the tasks assigned to him and which will organize both his work and that of all the other workers, within the same team or between teams with interdependence, which adapts easily. This co-adaptation of the work activities of each will lead to the actual work organization.

To understand the concept of organizing work, we can take up the definition of Terssac:

- Organizing is a job, an activity like any other, which consists of making plans and, procedures, considering protocols of interaction, making agreements. It is about organizing the actions of others, influencing their decision, reducing their autonomy, their other initiatives. In short, framing professional actions by structured action contexts.
- This process is always carried out in an already structured, already organized context, which means that organizing work is a task of reorganization (de Terssac, 2003: 121, unofficial translation).

Drawing inspiration from this earlier work, Marie-Anne Dujarier defined OW as: “defining or transforming rules to make them useful to the final production of the service” in her 2006 book (53, unofficial translation). She added that: “finding practical solutions to contradictions constitutes real work, both individual and collective, which here we call ‘Organizing Work’” (107, unofficial translation).

For us, OW work concerns both the organization's professionals (managers, for example) and other stakeholders (including workers or union actors). Moreover, as its purpose is to construct rules, OW may cover various organizational tools or practices, provided that these elements are governed by rules, as is the case with joint regulation.

Joint regulation of change

Among the actions and decisions that serve to construct the rules defining the mode of organization, joint regulation between employer and union would appear to be a compromise between the viewpoints of employers and employees (Reynaud, 1979). In this sense, it appears to be one of the features of social relations in industrial relations. Edwards tells us that "regulation includes all the rules, procedures, practices and agreements that determine how the work capacity of the employees is converted into real work" (Edwards, 1992: 417).

If the concept of joint regulation is vague about how to ensure equal labour-management representation, this is precisely because it concerns a set of different purposes and functions. In this article, we use the concept of joint regulation of change, defined by Lévesque and Murray (1998), to mean the specific rules, procedures, practices and agreements that provide a framework for the implementation of Lean projects in particular work units.

Lévesque and Murray (1998) propose two dimensions to classify the different types of joint regulation:

- a first dimension concerning the modalities for implementing change: an agreement between management and the union, management consultation of the union but where the union has no decision-making power, or unilateral management of change without consultation (i.e. no joint regulation);
- a second dimension that takes joint mechanisms, such as steering committees or working groups, into account.

Several factors have already been identified in the literature as influencing the *modus operandi* of joint regulation, such as the trade union's capacity for action, management's attitude, the commercial context and the purpose of the change (Lévesque and Murray, 2005, 2002 and 1998; John, 1999; Bettache, 2010). However, the literature does not reveal whether the smooth functioning of joint regulation provides added value for workers' health. As we have seen from the research on Lean, the existence of joint regulation of change does not appear sufficient to explain the health effects of Lean projects. There are other mechanisms that explain the relationships between these factors, regulation and occupational health. To identify these mechanisms, we must analyze the links

between these factors and regulation, but also between regulation and health. This requires studying the stakeholder actions and decisions involved in joint regulation.

Research question

Following de Terssac (2013 and 2014), we will attempt to use the concepts of the “enabling organization” and “organizing work” as a means to understand the joint regulation mechanisms that promote occupational health.

Our assumption was that the factors identified by Lévesque and Murray (1998) as influencing joint regulation between employer and union also influence the outcomes of Lean projects on the enabling organization’s criteria. This suggests that the organizing work (actions and decisions) involved in joint regulation has an impact on these factors, which in turn influences the organization of discussions about work, employees’ participation in decision-making, and the co-construction of a common framework for action. Our research question is therefore this: “What are the actions and decisions involved in the joint regulation of Lean implementation projects that lead to closer correspondence with enabling organization criteria?”.

The aim of our study was not to demonstrate relationships between the factors influencing joint regulation and the emergence of an enabling organization during Lean projects, but solely to explore the possibility that such relationships exist.

To answer this question, we sought to achieve two objectives as shown in Table 1: 1-to describe the outcomes of Lean projects relative to Arnoud’s enabling organization criteria, and 2- to describe the organizing work involved in joint regulation and, specifically, which work is influenced by the factors identified by Lévesque and Murray (1998) and may lead to closer correspondence with Arnoud’s enabling organization criteria.

TABLE 1

Cross matrix of Lévesque and Murray’s (1998) factors influencing joint regulation and Arnoud’s (2013) enabling organization criteria

Factors influencing joint regulation	Enabling organization criteria		
	Organization of discussions about work	Employees’ participation in decision making	Co-construction of a common framework for action
Union’s capacity for action	?	?	?
Management’s attitude	?	?	?
Purpose of the change	?	?	?

Methods

This empirical study was exploratory because little information was found related to the involvement of trade union stakeholders in actions and decisions that lead to the redesign of an organization's *modus operandi*. We therefore conducted a multiple case study (as defined by Yin, 2010) to meet our two objectives, and used a holistic approach by treating each case as a whole.

Each case study involved a transformation project, i.e., the implementation of Lean or of a new transformation in an already-Lean environment. For the purposes of our study, these transformation or implementation projects were limited to a work team or to a very specific unit in the companies concerned.

Furthermore, our methodology (retrospective data collection, no direct observation, and case studies involving only one trade union confederation, combined with the North American sociopolitical context) does not allow conclusions to be drawn.

However, it does open up new avenues warranting confirmation in future research, such as longitudinal observation studies of Lean projects or intervention research approaches, in order to assess the implementation of some of the actions and decisions involved in the organizing work we have identified.

Case selection

We applied four criteria to select the transformation projects carried out within the work units:

- Based on a literature review, we chose to define Lean implementation or transformation projects as those involving Lean tools in at least three of the four “bundles” identified by Shah and Ward (2007): just-in-time, total preventive maintenance, total quality management and human resource management.
- To ensure triangulation (Koners and Goffin, 2007), we selected cases giving us access to several types of informants, semi-directive interviews with different participants of the Lean projects and internal documents such as reports, agreements, etc.
- To qualify as joint regulation processes within the meaning of Lévesque and Murray (1998), projects had to have a joint management-union agreement and have been managed by a joint steering committee.
- Lastly, to allow for comparisons, we selected projects with contrasting final outcomes, i.e., one project regarded as a success by union stakeholders and the other regarded as a failure.

Data collection

Two cases of Lean projects were documented through eight individual interviews and the collection of documents between March 5 and June 23, 2014. Four stakeholders were interviewed for each project (Table 2), and documents related to the project (e.g. reports) were collected whenever possible. The eight interviews, each lasting 45 to 120 minutes, were audio-recorded and transcribed.

TABLE 2

Sources of information for each case study: stakeholders interviewed and documents collected

Case #	Employers		Union				Documents collected
	Senior management member	Supervisor	Employee	Counselor	Senior union member 1	Senior union member 2	
1	Yes	Yes	No	Yes	Yes	No	Yes
2	No	No	Yes	Yes	Yes	Yes	Yes

Data analysis

Content analysis was performed on the basis of the two aforementioned objectives, via coding with NVivo software for Mac¹.

Description of the Lean project outcomes

The project outcomes were described in terms of their correspondence to the enabling organization criteria.

Several points enabled us to assess whether or not, at the end of the project, the organization resembled an enabling organization. This was done by examining the testimonials in light of Arnoud’s criteria (2013: 303-304):

- The organization allows discussions and comparisons of the different stakeholders’ viewpoints of the real work. In the data corpus, we sought to determine, both during and after the Lean implementation project, whether the participants had been given the opportunity to discuss among themselves the rules defining a job “well done”;
- Cooperative management. Again in the corpus, both during and after the Lean implementation project, we looked for indications from the participants that the organization had offered opportunities for changing the rules that defined its *modus operandi*;

- Through ongoing discussions, the organization offers stakeholders the opportunity to construct their own common framework for action. In the corpus, we tried to determine, both during and after the Lean implementation project, whether the participants were able to develop a set of new, common strategies for doing their work.

Description of the organizing work involved in joint regulation of Lean implementation projects and identification of the mechanisms determining the emergence (or not) of an enabling organization

We then sought to identify differences in the two cases by comparing each action and decision.

Lastly, we classified the identified actions and decisions based on the influencing factor to which they related (union's capacity for action, management's attitude or purpose of the change). However, given the specific industry sector in which our two cases were carried out (public healthcare services), we did not identify any elements of the OW related to the commercial context.

Validation

Several procedures were followed to ensure the quality of the research:

- Systematic interview grids were used, allowing for objectification of the data collected.
- Data was triangulated by using multiple data sources (interviews with different actors, collection of documents).
- All the results were presented to the various participants to obtain their feedback and verify data interpretation and plausibility.
- Lastly, a log was used to track the research and to document the decisions made throughout the study and their justifications.

Results

The cases

General presentation

Two different cases constituted the data corpus. These two cases concerned Lean transformation projects carried out in specific work units rather than involving the entire company. Because of our activity-centred approach, we had to be close to the changes done in the work situation.

As shown in Table 3, both cases came from the public healthcare sector. The projects took place during a similar period and the overall characteristics of

TABLE 3
Presentation of cases

Characteristics/Case		1	2
Industry sector		Healthcare	Healthcare
Unit		Medical imaging	Operating room
Period		2010-2012	2008-2011
Implementation modalities	Agreement	X	X
Organizational means	Joint steering committee	X	X
	Joint working group	X	X
Factors influencing joint regulation	Union's capacity for action	Significant	Significant
	Management's attitude	Cooperative	Mixed
	Purpose of the change	Lean implementation	Lean implementation

the joint regulation process were the same: each project was the subject of an agreement between the parties and had a joint steering committee and joint working groups.

The case 1 institution has 1600 employees and the case 2 institution 4100 employees.

Progress of Case 1

As shown in Figure 1, after obtaining funding from the Ministry of Health, the organization held meetings to organize the operation of the project. The Steering Committee defined a number of tasks and also set up a joint ad hoc committee called the “Tactical Committee”. The setting up of this committee necessitated discussions between the stakeholders, to define its composition (including the presence of trade unions), its functioning and its missions. As a result of this step, work on the project itself began. Initially, the Minister of Health intervened to “reassure the participants” and then a one-day training session on the principles and functioning of Lean was held. The important decisions relating to the transformation of the organization took place during the week of Kaizen. This took the form of a working group of fifteen people (team leader, clinical coordinators, professionals, Lean consultant and union representatives), over five days, to reflect on the possible transformations of the service. As a result of this week-long session, there was a longer phase of transformation, which

led to a change of team leader in the unit. The new team leader took on the role of facilitator and he appeared to have demonstrated better communication with employees. Finally, the last step was an evaluation, several months after the project, to ensure the sustainability of the changes

FIGURE 1

Diagram of Case 1

Progress of Case 2

The institution set up a joint steering committee. This committee included members of management, union representatives and an experienced nurse on the block in question.

A few weeks after the start of the working groups set up by the joint steering committee, the employers involved Lean specialized consultants, without informing the union. In the working groups, work was done collegially with project representatives, Lean consultants, union representatives and employees. The meetings spanned several weeks and were combined with the transformations. Note that unlike case 1, in case 2, the work on the project was done in extra time, while in case 1, it was the current work that was done in extra time.

Differences between cases

We made the choice to have cases with contrasting final outcomes, i.e., case 1 was regarded as a success by union stakeholders and case 2 as a failure. But we didn't know if we would find the same differences in the outcomes relating to the enabling organization criteria or the factors that influenced joint regulation.

Regarding the factors influencing joint regulation referenced in the literature, only one distinction was noted between the two cases with respect to management’s attitude. In case 2, management was implementing a regulated project on a joint regulation basis under duress from the Ministry, the project proponent. We therefore observed a mixed attitude: the trade union was involved, but its proposals were not always taken into account and attempts were even made to bypass them. In case 1, faced with the same situation, management saw the joint regulation dimension of the project as an opportunity for improving industrial relations. Bearing in mind our hypothesis, namely that the factors influencing joint regulation also influence the occupational health outcomes of the project, the description of the two cases presented here shows that they differed in terms of the factors influencing the joint regulation process and in their outcomes, i.e., the emergence (or not) of an enabling organization.

Outcomes of Lean implementation projects in terms of correspondence to enabling organization criteria

By combining the various elements as shown in Table 4, we can see that only the outcomes of case 1 came close to meeting the enabling organization criteria. In case 2, although we observed the beginnings of a discussion about the real work during the working groups, this practice did not continue after the project.

TABLE 4 Description of the project outcomes based on three enabling organization criteria (boldface: the characteristics of an enabling organization)			
Cases/ criteria	Organization of discussions about work	Employees’ participation in decision making	Co-construction of a common framework for action
1	Yes. Team meetings allow for discussions about work	Yes. Employees may make proposals for possible transformations	Yes. Greater sharing of common issues between employees
2	No. Debates initiated about the actual work did not continue beyond the project	No. Even changes proposed during the project were not implemented	No. The work environment deteriorated drastically after the project ended

The outcome of case 1 appears to come closer to meeting the enabling organization criteria:

- Presence of meetings that continued after the project, including discussions and debates among workers and managers: “10 orthopedists will use 10 different kinds of thread to do the same suture for the same type of patients. [For staff] there are lots of discussions about medical practice in this case, but then your boss, the department head, has to standardize things” (Case 1, senior management member).
- Cooperative management (the fact that beyond the actual Lean implementation project the organization offered the opportunity to change the rules defining its *modus operandi*): “But that [holding focus groups to solve problems] was never done before. [...] Before, it was the leader who made the decisions and the others who carried them out. It’s not like that anymore. If you see something, you can say it and propose a solution. It’s likely to be implemented, you know. For [workers], it’s a kind of recognition.” (Case 1, union officer).
- Co-construction of a common framework for action: “The [kaizen group] has defined many processes to ensure that the radiologist does not have to intervene each time to say how he wants the patient to be prepared and that this is done directly instead.” (Case 1, senior management member).

After identifying the outcomes of the various Lean implementation projects in terms of their correspondence to the enabling organization criteria, we then attempted to identify the elements of the organizing work involved in joint regulation that led to the emergence (or not) of an enabling organization.

The organizing work involved in joint regulation that led to the emergence (or not) of an enabling organization

To identify the elements of the OW involved in joint regulation that affected the project’s occupational health outcomes, as noted in the “Methods” section, we took each enabling organization criterion and identified which actions and decisions affected it. We then compared the two cases to pinpoint any differences in these actions or decisions. Lastly, we related these actions or decisions to Lévesque and Murray’s contextual factors: the union’s capacity for action, management’s attitude and the purpose of the change.

The organizing work involved in joint regulation influenced by the union’s capacity for action

Process used to define the objectives of the Lean implementation project

A difference was observed between the two cases in terms of the influence of the union’s capacity for action on the organization of discussions about the

real work. This influence was partly determined by the process used to define the Lean project objectives: In case 1, the union actors had let the workers define the objectives during the working group: “During the kaizen week, it is they [members of the working group] who define their objectives and targets” (Case 1, senior management member). In case 2, the union actors had their own objective, and it was not fully supported by the workers involved in the project: “We tried to avoid having surgeries performed in a [private company] as much as possible; we wanted to do them here. That is our trade union’s mission” (Case 2, union officer). The objectives serving as a guide for action to predefine the subjects that needed to be discussed. If these objectives are defined unilaterally, this can hinder discussions about the real work.

Process used to define the modes of project assessment

We also observed a difference between the two cases in terms of the influence of the union’s capacity for action on worker participation in decision-making. This influence was partly determined by the process used to define the modes of assessment: In case 2, the trade union actors took the management indicators for granted (the time between two surgeries, for example), without questioning them. Yet, these quantitative indicators can in fact distort reality: “This is not a tool that is right for assessing the time. Because often when nurses leave the room, they will mark ‘beginning of cleaning,’ and then they go. But there’s nobody to begin cleaning. For our part, we clean, we finish, and everything is ready for a patient. But the surgical team hasn’t returned yet. They might come back five or ten minutes later. And then ‘oops,’ they see that everything is done and they go click ‘end of cleaning’ [on the computer], when it was actually finished about ten minutes ago. Often, the times given are not accurate, are not true” (Case 2, worker). As the project actors then based their decisions on the indicator data, having unrealistic indicators hindered the emergence of an enabling organization. By contrast, in case 1, the union actors chose, in agreement with company management, to provide only a framework and to let the working groups themselves define the modes of assessment to be used, thus facilitating cooperative management.

Process used to organize the discussions

The union’s capacity for action can influence the process used to organize the discussions about the real work and the co-construction of a common framework for action. The union actors in case 2 chose to set up several sub-groups according to subject (e.g. schedules, work organization) or phase of the work process (before, during and after surgical operations). Each working group had silo discussions, thus preventing exchanges that would have enabled the

participants to develop a common framework for action. We did not observe this modus operandi in case 1, where only one group discussed all the transformations made.

The organizing work involved in joint regulation influenced by management's attitude

Transparency of actions

We observed that management's attitude had an influence on the transparency (or not) of its actions, which, in turn, had an impact on the organization of discussions about the real work: In case 2, management's objectives were different from the union's (management sought to reduce the time between surgeries; the union sought to repatriate the surgeries performed in a private company). Yet neither of the stakeholders based their objectives on the issues identified in the work situations faced (e.g. types of surgery performed, lack of beds in the recovery room, incomplete patient records). In case 1, both union and management stakeholders agreed on the general objectives (reduce the waiting list) and conducted a preliminary audit among workers to ascertain the real problems: "We go into the workplace. We begin the investigation. Then we reveal the results of our investigation to the workers" (Case 1, union advisor). In case 1, the project was presented right from the outset as a Lean implementation project. In case 2, management revealed the project orientation in a second step and imposed it on the union. The project regulation process was therefore less joint in nature, and the union was no longer able to ensure the conditions for discussion of the real work during the working groups. In case 2, concurrently with the jointly-regulated project, management conducted projects in other sectors that may have had an impact on the results of the first project. However, these other projects were not subject to joint regulation: "There was another firm [...] that worked on the patient's trajectory from A to Z, when he arrived at the hospital, when he left, how often he was transferred, all the travelling done for nothing. [...] All this was their project. We were not involved" (Case 2, union officer). In case 1, the joint steering committee oversaw all the projects and coordinated them for greater consistency. Management's attitude in case 2, reflected in its non-transparent actions, had impacts on the opportunities given to the working groups to discuss the real work.

Involvement of senior management

Management's attitude may have influenced the involvement of senior managers in the project steering committee and working groups, as well as the cooperative aspect of decision-making. In case 1, senior managers participated in the project steering committee and the working group at the end of each

work day. This provided them with feedback and possible solutions regarding the organization's rules: "This steering committee had two representatives from each of the accredited unions within our establishment. That means three accredited unions. So, six people. And the other members were more directors of operations, and representatives of the medical teams." (Case 1, senior management member). In case 2, the individuals on the project steering committee were not senior managers and therefore could not participate in decisions. Also, the decision-makers were too far removed from the workplace realities to gauge the value of the committee's proposals.

The organizing work involved in joint regulation influenced by the purpose of the change

Processes addressed

Even if in the two cases the decision had been taken to implement Lean, the purpose of the change is not exactly the same. So it is necessary to be more precise than just refer to "implementing Lean". The purpose of the change may influence the choice of what is addressed in the project, which in turn may impact the opportunities provided for discussing the work. Thus, in case 1, the purpose of the change concerned all the processes of the medical imaging unit: "We [the members of the joint steering committee] told [the workers in the work unit] that there would be a kaizen event and that we were inviting people who wanted to participate, saying they would receive a one-day training and that it included a week of meetings" (Case 1, union advisor). In case 2, the purpose of the change concerned only a part of the work situation (the cleaning task between two surgeries); it did not address the administrative part, patient preparation, the surgeries themselves or the recovery phase. Thus, even for the problem it was intended to solve, the project would not have proposed solutions regarding the determinants (types of surgery, conditions of the operating room), and overall, it would not have improved the expected productivity (the recovery unit was not able to accommodate more patients regardless of the changes).

Process used to define the team leader role

We observed a difference between the two cases in terms of how the purpose of the change impacted the way the team leader's role was defined, which, in turn, may have affected the cooperative aspect of management as well as the opportunities for workers to participate in decision-making. In case 1, when workers raised questions about overly controlling management, senior management agreed with their opinions and applied the prescribed Lean management solution through less control and more leadership: "We changed our team leader during the project, with very clear objectives in mind: we wanted

the leader to be more present in the workplace and for him to speak more with people” (Case 1, senior management member). This did not happen in case 2 because the team leader role was not part of the project’s purpose.

Involvement of all stakeholders in the work situation

Lastly, the purpose of the change may have had an impact on the co-construction of a common framework for action in terms of the actors chosen to be involved in the project or not: in case 1, the project made room for doctors to participate, as they have an important role in defining the working conditions under which other workers must perform their jobs, and allowed for discussions about the real work in order to establish common practices: “There are lots of discussions about medical practices in this case, but your boss, your department’s head doctor, must be equipped to say, ‘Fellows, we have to sit down and get organized’” (Case 1, senior management member). In case 2, medical procedures were excluded from the Lean implementation project: “The working group didn’t make any decisions about medical procedures” (Case 2, union officer).

Discussion

Contributions of the research

Our exploratory study provides information (Table 5) on the relationship between the factors influencing joint regulation and Lean project outcomes in terms of their correspondence to the enabling organization criteria.

In this exploratory research, we identify some avenues relating to actions and decisions involved in joint regulation of Lean implementation projects that lead

TABLE 5
Processes that may lead to closer correspondence with enabling organization criteria, based on our results

Factors influencing joint regulation	Enabling organization criteria		
	Organization of discussions about work	Employees’ participation in decision making	Co-construction of a common framework for action
Union’s capacity for action	Defining objectives collectively	Defining the modes of assessment collectively	Discussing work
Management’s attitude	Being transparent	Being involved	—
Purpose of the change	Addressing all processes	Defining management rules collectively	Integrating all stakeholders involved in the work situation

to closer correspondence with enabling organization criteria, such as; defining objectives collectively, defining the modes of assessment collectively, discussing work, being transparent, being involved, addressing all processes, defining management rules collectively, and integrating all stakeholders involved in the work situation.

We also find that the factors identified by Lévesque and Murray (1998) as influencing joint regulation also influence outcomes in terms of the emergence of an enabling organization. We observed differences in the influencing factors between our two cases, and the same differences in outcomes.

The actions and decisions involved in the joint regulation of change have an impact on the factors influencing outcomes in terms of the emergence of an enabling organization. In our two cases, we identified elements of the OW involved in the joint regulation of change that were influenced by Lévesque and Murray's factors and that impacted the outcomes.

Our results suggest, as did those of Bettache (2010), that the various stakeholders need to change their ways of carrying out this organizing work. In particular, they need to acquire new skills.

Lastly, we gained a better understanding of the different results obtained by Johansson, Abrahamsson and Johansson (2013) and Stewart, Durand et al. (2006): While joint regulation of Lean projects appears necessary to prevent work situations that are harmful to health, it alone is insufficient to explain the relationship between Lévesque and Murray's factors and occupational health. There are clearly other factors at play. Although far from exhaustive, our work identifies some of these factors.

Limitations of the research

Our data size was not strong enough to demonstrate relationships between the factors influencing joint regulation and the emergence of an enabling organization during Lean projects. But, as we have seen the possibility that such relationships exist, it does open up new avenues warranting confirmation in future research, such as longitudinal observation studies of Lean projects or intervention research approaches, in order to assess the implementation of some of the actions and decisions involved in the organizing work we have identified.

Conclusion

Contrary to what the proponents of Lean may suggest, the direct participation of workers does not rule out union involvement. Nor should we be naively optimistic about joint projects: joint regulation, although it appears essential

to the success of Lean projects in terms of meeting the enabling organization criteria, is not in itself sufficient enough to prevent adverse health effects. The various stakeholders must also commit to the real joint regulation of change and reach agreement on a *modus operandi* that allows for changes to be made in the rules governing the real work. This requires transparency on the part of the employer and on the part of the trade union: knowledge not only about Lean tools such as VSM, but also about performance indicators, or supervisors' rules and their links to the work activity of their members, and special skills concerning building joint regulation and working groups. It is an issue that also places importance on the central trade union confederation as the body with the means to educate and inform local union actors so that they are equipped to take actions and make decisions potentially leading to the emergence of an enabling organization. These findings underscore the merits of further analyzing the organizing work involved in joint regulation in order to identify new skills and provide workplaces with practicable solutions.

Note

- 1 NVivo qualitative data analysis software; QSR International Pty Ltd. Version 10, 2014.

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SUMMARY

How Can the Organizing Work Involved in Joint Regulation of Lean Projects Promote an Enabling Organization and Occupational Health?

The objective of this article is, through an empirical study, to further understanding of the actions and decisions taken in the context of Lean implementation projects carried out under joint regulation (Lévesque and Murray, 1998) agreements. We, therefore, attempt to identify factors that may facilitate the organizing work involved in joint regulation of Lean projects to allow workers to develop a broader range of health-minded work methods and habits.

Our assumption is that factors which influence joint regulation, such as the union's capacity for action, management's attitude and the purpose of the change, also influence the occupational health outcomes of Lean projects. We believe that the organizing work involved in joint regulation (actions and decisions) has an impact on these factors and influences the occupational health outcomes. Our research question is therefore this: What are the actions and decisions involved in joint regulation of Lean implementation projects that lead to closer correspondence with enabling organization criteria?

This empirical study was exploratory in nature and had a multiple case study design. Two cases of lean projects were documented through eight individual interviews and the collection of documents.

The main results indicate that, while joint regulation appears essential in terms of meeting enabling organization criteria, it alone is insufficient to explain the health effects of Lean projects. All stakeholders need to define the project goals, modes of assessment and management rules, both cooperatively and transparently, and through their involvement in decisions regarding all processes.

KEYWORDS: lean, joint regulation, organizing work, enabling organization, occupational health.

RÉSUMÉ

Comment le travail d'organisation de la régulation paritaire lors de l'implantation de la *Lean production* peut permettre l'émergence d'une organisation capacitante?

L'objectif de cet article est ici de mieux comprendre, par le biais d'une étude empirique, les actions et les décisions prises dans le cadre de transformations organisationnelles vers une production au plus juste (*lean production* en anglais) faisant l'objet d'une régulation paritaire (Lévesque et Murray, 1998). Notre démarche consiste à identifier des facteurs qui peuvent permettre aux acteurs syndicaux de participer aux actions et aux décisions prises pour organiser le travail,

lors d'un de ces projets de rationalisation, afin d'aider les travailleurs à développer un plus large éventail de saines habitudes et méthodes de travail.

Notre postulat est que les facteurs qui exercent un effet sur la régulation paritaire, tels que la capacité d'action du syndicat, l'attitude de la direction et les buts visés par le changement, influent également sur les résultats des projets de rationalisation en terme de santé au travail. Nous pensons que le travail d'organisation nécessité par la régulation paritaire (les actions et les décisions) joue un rôle de médiateur sur ces facteurs et, en conséquence, sur les résultats en matière de santé au travail. Notre question de recherche est donc la suivante : Quelles sont les actions et les décisions qui peuvent permettre que la régulation paritaire lors de l'implantation d'une rationalisation (*lean production*) conduise à un rapprochement vers une organisation capacitante?

Cette recherche empirique est de nature exploratoire et repose sur une étude de cas multiples. Deux cas de projets de rationalisation ont, ainsi, été documentés grâce à huit entretiens individuels et une collecte documentaire.

Les principaux résultats indiquent que la régulation paritaire, bien qu'elle semble indispensable à la réussite de ces projets de rationalisation en termes de rapprochement vers une organisation capacitante, n'est pas suffisante. Toutes les parties prenantes se doivent de participer à la définition des buts des projets, de leurs modes d'évaluation et de leurs règles de gestion, de manière coopérative et transparente, et ce, grâce à leur implication dans les décisions au cours de tous les processus.

MOTS-CLÉS : production au plus juste, régulation paritaire, travail d'organisation, organisation capacitante, santé au travail.

RESUMEN

¿De qué manera el trabajo de organización requerido por la regulación conjunta de proyectos de racionalización (*Lean Projects*) puede promover una organización habilitadora y la salud ocupacional?

El objetivo de este artículo, basado en un estudio empírico, es de mejorar la comprensión de las acciones y decisiones adoptadas en el contexto de proyectos de implementación de racionalizaciones (*Lean*) llevados a cabo bajo acuerdos de regulación conjunta (Lévesque y Murray, 1998). Intentamos identificar los factores que pueden facilitar el trabajo de organización requerido por la regulación conjunta de los proyectos de racionalización (*Lean*) de manera a que los trabajadores desarrollen una gama más amplia de sanos hábitos y métodos de trabajo.

Nuestro postulado es que los factores que influyen en la regulación conjunta, como la capacidad de acción sindical, la actitud de la dirección y el propósito del cambio, también influyen en los resultados de salud ocupacional asociados a los

proyectos de racionalización. Pensamos que el trabajo de organización requerido por la regulación conjunta (acciones y decisiones) tiene un impacto sobre esos factores y, por ende, sobre los resultados en materia de salud ocupacional. La cuestión en investigación es entonces la siguiente: ¿Cuáles son las acciones y decisiones en el curso de una regulación conjunta de proyectos de implantación de una racionalización que pueden conducir a un avance hacia una organización habilitadora?

Este estudio empírico, de naturaleza exploratoria, reposa sobre un estudio de casos múltiples. Se documentaron dos casos de proyectos de racionalización mediante ocho entrevistas individuales y la recopilación de documentos.

Los principales resultados indican que la regulación paritaria, aunque parezca esencial en términos de respetar los criterios de organización habilitadora, por sí sola es insuficiente para explicar los efectos de los proyectos de racionalización sobre la salud. Todas las partes implicadas deben participar a la definición de los objetivos de los proyectos, los modos de evaluación y las reglas de gestión, y esto, de manera cooperativa y transparente, y mediante su participación en las decisiones relativas a todos los procesos.

PALABRAS CLAVES: racionalización de la producción (*lean production*), regulación conjunta, trabajo de organización, organización habilitadora, salud ocupacional.