

Workplace innovation through interrelating theories: Relational Coordination and Modern Sociotechnical Systems Theory

Abstract

This paper explores why and how workplace innovation could be advanced by interrelating two theories: Relational Coordination and the Modern Sociotechnical System theory. This exploration is done by a brief literature review aimed at formulating the theoretical challenges that could be addressed by interrelating the two theories. And since nothing is as practical as good theories the paper also describes the combined application of both approaches in the domain of organising elderly care in Flanders (Belgium). More specifically, the theoretical complementarity is used to design a research project on how care providers within and across organisations could collaborate more effectively, and at the same time, enhance the quality of their work and work relations.

Key words: Relational coordination, Modern Sociotechnical Systems Theory, Elderly Care, Workplace Innovation

Introduction

This paper corresponds with the general theme and with two specific topics of EURAM 2014: ‘organisational design for creativity’ and ‘innovation through collaboration between and within organisations’. The fact that EURAM¹ tries to overcome the siloization of knowledge by combining multiple perspectives shows that exploring the complementarity of theories could be a very useful strategy to create workplace innovation that fosters creativity. This is the perspective which we take in the following exploration of the possible complementarity of the Modern Sociotechnical System Theory (MST) and Relational Coordination (RC). In order to reach this purpose we begin by briefly pointing out a major organisational problem with which MST and RC are both concerned: the rigid work organisation of many organisations in relation to their changing demands from the social and economic environment in which they operate. We indicate how this problem is related to the need for workplace innovation and creativity. Then, we describe how MST and RC could help to solve this organisational problem, and how the two theories could be regarded as complementary. Next, we introduce a research design (Figure 1) that is based on the complementarity of both approaches and that will be further developed and used in a research program on innovation projects in elderly care (Dessers & Van Hootegem, 2013) . To conclude we sum up the key points of this paper with an indication of points that need further elaboration.

A common organisational challenge

Before we go into the complementarity of RC and MST we describe the organisational challenge both theories share as their primary focus of attention and how this could affect creativity and workplace innovation within and across organisations. For this purpose we will make use of the MST as an analytical framework for assessing the effectiveness of a work organisation in relation to its environmental demands (Van Hootegem, 2000). This framework has many similarities with the high performance work systems that enable RC that we will describe further in this paper. We emphasize that the changing characteristics of an organisation’s environment are in fact demands that must be met by an organisation’s work organisation for the purpose of effectiveness and efficiency (Daft, 2001).

¹ EURAM Mission Statement, 2014

The organisational challenge then lies in overcoming the multiple dysfunctions caused by the dominant Tayloristic way to organize work in an environment that can be characterised as volatile, unpredictable, complex and ambiguous (Bennett & Lemoine, 2014). The Tayloristic principles (Taylor, 1911) regarding work organisation have been very successful during a great part of the twentieth century when organisational demands mostly focused on productivity and quality (Van Hootegeem, 2008). But as the environmental characteristics changed since the late seventies of the past century (with regard to labour market, technology, demographics etc.), more pressure was put on organisations in terms of combined demands of productivity, quality, flexibility, sustainability and innovation. Gradually, the Tayloristic work organisation became an obstacle for organisations to adapt to the changes in their environment (De Sitter, 1997).

In order to understand why the Tayloristic work organisation could become a problem in relation to its changing environment, we now describe the essential key concepts of the Tayloristic work organisation and compare it to a 'Flexible' work organisation (Kuipers et al., 2010). Work organisation can be defined as 'the way tasks are organized and coordinated within the context of an overarching work system' (Cordery & Parker, 2007, p.3).

The Tayloristic way to organise tasks is characterised by high levels of task division (Daft, 2001). For example if an elderly man needs care for his diabetes he will have to see many different caregivers in order to receive the full spectre of care (tasks) that his health condition requires. In a Tayloristic work organisation each of those care professionals is only responsible for, and specialised in, his or her own functional task(s). 'This function-based task division comes about when similar activities are grouped together in one organisational unit based on their input' (Dessers, 2012, p.38-39). This means that the whole process of diabetes care in our example has been cut into little pieces and functionally grouped together in units. The consequence is that the only way to coordinate these tasks is through hierarchical functions created to overview, control and align the functionally fragmented process (Kuipers et al., 2010). The coordination capacity is thus centralised and situated at a management level away from the work floor (Dessers, 2012).

The 'Flexible' work organisation provides an alternative for the dominant Tayloristic principles (Trist et al., 1963). In contrast to the latter its essential feature is a process-based task division with low levels of task division (Van Eijnatten & Van der Zwaan, 1998). Also according to Kuipers et al. (2010) this type of work organisation is defined by the interaction with the environment in which it operates. In our example the elderly man with diabetes will then be at the centre of attention of a multidisciplinary team which works together in function of the patient's needs, and not in function of their own specific fragmented tasks. 'This process-based task division builds on similarity in output as the basis of grouping activities' (Dessers, 2012, p39). Consequently another difference with the Tayloristic work organisation is that the coordination of tasks would be decentralised and integrated in the operational work of the care professionals (Kuipers et al., 2010).

Literature on organisational design and innovation learns that Tayloristic organisations tend to have a lower capacity for learning and innovative responses to changes than more decentralised ones with lower levels of task division (Burns & Stalker, 1961; Mintzberg, 1979; Lam, 2005;).

In the next section we will describe how the MST, as a design theory, focusses on the relation between the environmental demands and work organisation design in more detail (De Sitter, 1997) but first we clarify what we mean by ‘workplace innovation’ and ‘creativity’, two terms that we will link to each other in relation to this paper’s main theme.

‘Workplace innovation’ has no uniform definition but the term has gained in popularity as an integral part of the EU2020 strategy of smart and inclusive growth at the organisational level (Dhondt et al., 2012). We will use the definition proposed by Dhondt et al. (2012, p.6), which stresses the synergy between organisational performance and job quality, and points to human and non-human resources as integral components of innovative processes:

‘Workplace innovations are strategically induced and participatory adopted changes in an organisation’s practice of managing, organising and deploying human and non-human resources that lead to simultaneously improved organisational performance and improved quality of working life’.

Creativity as a concept is relevant for this paper because it can be linked to organisational innovation. In this paper we therefore use the definition of Amabile (1996, p.1): ‘Creativity is the production of novel and useful ideas in any domain and ‘innovation is ‘the successful implementation of creative ideas in an organisation’. As explained earlier, Tayloristic work organisation may have difficulties in adapting to complex and volatile changes in the environment, because novel ideas and practices are not likely to bloom in such types of organisations (Lorenz, 2006).

Workplace innovation

We will now describe how MST as an organisational design theory could enable workplace innovation and creativity. In the following section we will focus on a potential gap within the MST theory, and investigate whether the possible complementarity with RC could offer ways to fill this gap.

MST is a theory about work organisation, which conceptualises an organisation as a social structure of relationships between workplaces. This structure must be aligned in function of the environmental characteristics in which the organisation is trying to realize its goals (De Sitter, 1997; Kuipers et al., 2010). As Bennett and Lemoine (2014) pointed out, many organisations face environmental changes that can be characterised as volatile, unpredictable, complex en ambiguous.

As mentioned above the design of a work organisation implies task division. The MST states that this task division results in a production structure and a control structure (De Sitter, 1997; Dessers, 2012). The production structure consists of the task division decisions concerning the activities that are necessary to deliver a product or service to a client. The control structure is about coordination of these divided tasks (Van Hootegeem, 2000).

The MST uses two organising principles for understanding the production and control structures of work organisation. The first principle is based on Ashby’s law of the requisite variety which states that ‘the variety of control mechanisms must be greater than or equal to the variety of interferences’ (Ashby, 1957; Dessers, 2012, p.41). In other words, the design of a work organisation must allow to adapt itself to the complexity of its environment.

The second principle is that a control structure needs to be designed according to the decentralization rule (Van Hootegem, 2008), which states that, unless strong reasons exist for centralisation, decisions can best be taken at the level of the individual or team-based workplaces. This decentralization rule is in line with the theoretical insights offered by Karasek's Job Demand-Control model (Karasek, 1979). Karasek's work shows that a work organisation in which the job control characteristics of workplaces are in balance with the job demands, can be related to higher levels of learning and lower levels of work-related stress.

Job control characteristics, within an MST view, are predominantly dependent on the job content which is itself determined by the design of the production and control structures. MST's strong focus on job content as constitutive for job quality might have led to a lack of attention for the human relations aspects of job quality. De Spiegelaere et al. (2013) studied the importance of social relationships in terms of job quality in relation to innovative work behaviour and work engagement. Their research supports our hypothesis that work relationships may play a more significant role than has been assumed so far in MST literature. This hypothesis is in line with Karasek's and Theorell's (1990) expanded Job-Demand-Control model, in which they include social support from co-workers. The resulting Job Demands-Control-Support model was based on research (Johnson & Hall, 1988) that showed that social support might be an important resource for employees to learn and help solve problems, and adapt to changes that occur in their workplace.

Interrelating two theories: focus on work relationships

We now focus on relationships in the context of work organisation as the central concept to link MST and RC. We start by identifying the meaning of (work) relationships in the MST approach.

The mainly Dutch literature on the MST states that work relationships are a constitutive part of the social structure of any organization (Kuipers et al., 2010). Nevertheless, the main focus of MST is on how to divide and coordinate work via the structuring of interdependencies between tasks. MST's primary unit of analysis is an organisation's value stream that as a whole consists of all the activities or tasks with added value for the process (Van Hootegem et al., 2008). The theoretical foundation for this MST-way of looking at organizations is based on Luhmann's social system theory and was originally developed by De Sitter (1994, 1997), and has been further elaborated by various Dutch and Belgian scholars (e.g. Van Hootegem, 2000).

Van Kollenburg (2003) indicates that when the MST was originally developed it considered an organization as a social structure with an informal and a formal component. But in the process of developing it further mainly the technical aspects of designing, and the formal structures received attention, in detriment of the informal structure, which has led to a limited development of the quality of work relationships. Another indication of the possible lack of attention for work relationships in MST is pointed out by Delarue (2009), who states that the MST might be strong in designing social structures that can enable desired behaviour (like mutual respect and building relationships on trust), but that it nevertheless assumes too easily that such behaviour will occur once the right structural conditions are in place.

Relational coordination (RC) theory does acknowledge the primordial importance of work organisation, but argues that coordination might not just be about structuring tasks in such a way that it enables behaviour. Coordination is also about the relational process of

interdependencies between the people who perform these tasks. It should be noted that the main unit of analysis in relational coordination is not the individual employee, but the role-based relationship. The RC approach regards relationships as ‘being essential for creating collective identity in an organization and for enabling work to be coordinated effectively (...) by focusing on relationships between roles rather than between specific people’ (Gittell, 2009 p.19). Most importantly, these relationships are characterized by shared goals, shared knowledge and mutual respect that foster communication which is characterized as frequent, timely, accurate and problem-solving.

According to Gittell (2003), the different role-embedded relationships must be founded in what she calls a high performance work system. This work system consists of mutually reinforcing work practices that foster optimal conditions to execute an RC approach. These work practices are described as ‘distinct from traditional bureaucratic practices because they serve to overcome rather than reinforce the silos by connecting workers directly with one another’ (Gittell, 2009 p.52). As was mentioned in the first section of this paper these high performance work practices share many similarities with the MST as analytical framework for assessing the the dominant Tayloristic structure of work division. Together these work practices may lead to quality and efficiency performance and job satisfaction.

The RC’s theoretical foundations are based on the work of several researchers that have identified ‘high performance work systems’ that enable strong work relationships (Evans & Davis, 2005). Evans and Davis (2005, p.759) define these ‘high performance work systems’ as follows: ‘an integrated system of HR practices that are internally consistent (alignment among HR practices) and externally consistent (alignment with organizational strategy) that include decentralized decision making, extensive training, flexible job assignments’. in line with this definition Gittell (2003, 2009) states that such practices must be linked and synergistically developed to foster optimal conditions for RC application. The strength of these work practices could be that they originate from different theoretical frameworks. But this could also prove to be a weakness, since it could be argued that the RC and its enabling high performance work systems might lack a consistent theoretical foundation to design work organization.

In summary, we propose that the MST approach might benefit from an additional focus on role based relationships. At the same time, we hypothesise that MST might offer RC a comprehensive theoretical framework for understanding and developing high performance work systems.

Combining MST and RC in research on innovations in elderly care

As mentioned above the exploration of possible theoretical complementarity between MST and RC will be put to the test in a living lab research project on elderly care in Flanders (Belgium) (Dessers & Van Hootegem, 2013). More specifically, we use this theoretical complementarity to conduct research on how care providers can collaborate more effectively while at the same time enhancing the quality of their work and work relations.

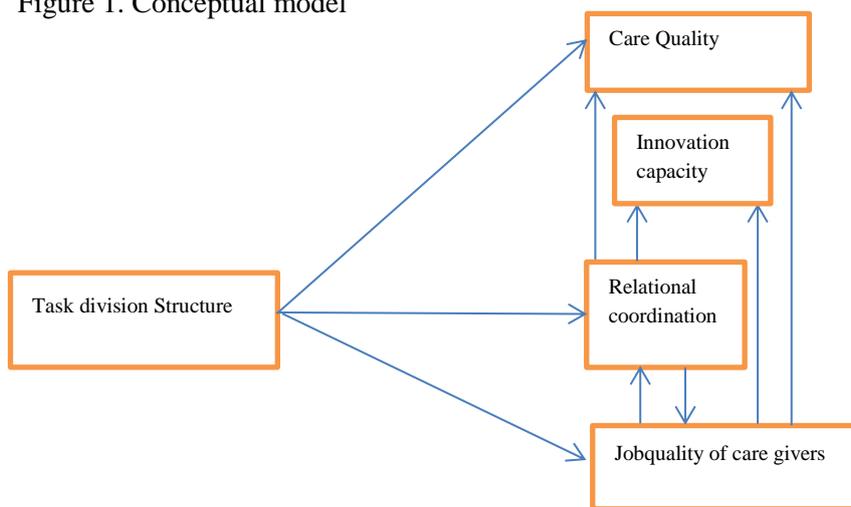
The living lab projects will be studied from an inter-organizational perspective. The reason for this is that the innovations are always implemented by multiple organization. The aim is to improve care processes that cut across boundaries of organisations and individual caregivers. This inter-organisational characteristic underlines the need for collaboration and coordination across and within care organisations.

We now present the main research questions, the conceptual model (figure 1) and the propositions, although it should be noted that this is a work in progress that needs further elaboration.

Research questions, conceptual model and propositions

1. What is the relation between the task division structure of inter-organisational care processes and
 - a. the level of innovation capacity of the involved organisations?
 - b. the level of job quality of the caregivers in inter-organisational care processes?
 - c. the level of care quality?
2. And to which extent does the level of relational coordination play an intermediate role on the
 - a. the level of innovation capacity of the involved organisations?
 - b. the level of job quality of the caregivers in inter-organisational care processes?
 - c. the level of care quality?
3. What is the relation between job quality and
 - a. the level of innovation capacity of the involved organisations?
 - b. the level of care quality?
 - c. the level of relational coordination of the caregivers in inter-organisational care processes?

Figure 1. Conceptual model



Propositions

Given the level of complexity and dynamism of the current social environment:

1. A less fragmented task division and a more de-centralised coordination will contribute to higher innovation capacity of the involved organisations.
2. A less fragmented task division and a more de-centralised coordination will contribute to higher job quality for care-givers.
3. A less fragmented task division and a more de-centralised coordination will contribute to higher levels of care quality.
4. A less fragmented task division and a more de-centralised coordination will contribute to higher relational coordination.

5. High relational coordination will contribute to higher levels of innovation capacity of the involved organisations.
6. High relational coordination will contribute to higher levels of job quality for care-givers in inter-organisational care processes.
7. High relational coordination will contribute to higher levels of care quality
8. High job quality will contribute to higher levels of innovation capacity of the involved organisations.
9. High job quality will contribute to higher levels of care quality.
10. High job quality will contribute to higher levels relational coordination.

Discussion and conclusion

The aim of this paper was to explore why and how RC could be complementary to MST theory in relation to workplace innovation and creativity. We described the common challenge which both organisational approaches are concerned with, with regard to the dominant Tayloristic work organisation and its possible dysfunctions. We then focused on the complementarity of the two theories by using the concept of work relationships. We provisionally concluded that there could be many possibilities for complementarity that go both ways: RC could benefit from the strong theoretical framework of the MST approach. MST could benefit from the RC focus on strong role-based relationships in function of the coordination of work and job quality.

To end this paper we sum up some shortcomings that need to be addressed. An extensive literature review will be needed in order to better understand the theoretical frameworks that underpin the RC and MST approaches. Furthermore, the concept of teamwork, which is takes a central place in both MST and RC, was given little attention in this paper. We will need to elaborate on this important building block.

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