Relational coordination as an indicator of teamwork quality: potential application to the success of e-learning at Universities

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Abstract— Teamwork has emerged as a contemporary management technique, the non-adoption of which has been considered as a cause of failure to implement change initiatives in organizations. Studying teamwork in relation to the implementation of organizational routines to improve results in online Educational Systems is important because many practices for improving e-learning systems cannot be used without a collaborative teamwork. The relational coordination model is applied to measure teamwork to a representative sample of lecturers and students that teach on e-learning based systems in Spain and in this paper, the results are presented. Given the importance of interactions among educational professionals, the model of relational coordination is well positioned to address teamwork quality in the University contexts. However, to the researchers’ knowledge, this is the first research applying relational coordination model in the context of organizational routines implementation in e-learning processes.

Index Terms—online educational systems, organizational routines, relational coordination, teamwork.

I. INTRODUCTION

Empirical research suggests that organizational routines have a substantial effect on final results at e-learning activities. However, the implementation of organizational routines does not take place in vacuum. E-learning professionals from different specialties participate in a complex, multidisciplinary, and time sensitive process of education which requires a collaborative teamwork between various parts [1].

E-learning literature highlights the need for collaborative teamwork for achieving best results in the teaching and learning process. Although the importances of organizational routines and collaborative teamwork have been well recognized in e-education literature, little attention has been given to study the relationship between these two factors. The present research intends to examine this relationship through the application of relational coordination model [2], [3] as a measure of teamwork quality that can be in later analysis applied to the success of e-learning contexts.

“Relational coordination is a mutually reinforcing process of interaction between communication and relationships carried out for the purpose of task integration” [3], pp 301. Shared knowledge, shared goals and mutual respect are the relationship dimensions, while frequent, timely, accurate, and problem-solving communications are the communication dimensions of relational coordination. Figure 1 shows the relational and communication dimensions of relational coordination and indicates the interaction between them.
In order to conceptualize teamwork quality as relational coordination among team members, this paper takes insights from [3] and [5]. [3] was of the view “If groups are sets of organizational members who must work interdependently to achieve a task designated by the organization, and coordination is the management of interdependence, then coordination is arguably a central element of what effective groups do.” As teamwork is the ability of a group of people to work together, it can be argued that groups working on interdependent activities are in fact doing teamwork. If coordination is what the groups do and teamwork is also what the groups do, then teamwork will be reflected by the coordination in a team. According to Gittell’s distinct point of view, relational coordination refers to the interactions among participants [3], p. 1410. As the quality of teamwork has also been called as the quality of interactions in teams [5], p. 436, the researcher argues that the level of relational coordination among the members involved in reperfusion process will reflect the quality of their teamwork.

More specifically, according to [3] point of view, “the process of interactions among [group or team] participants has been recognized as a more spontaneous form of coordination—also referred as ‘teamwork’ and can be conceived as relational coordination (p.1410). From our way of thinking, the coincidence of [3], and [5] point of view on the interactions among participants—i.e. one side of research calls the quality of interactions as teamwork quality [5], while the other calls the quality of interactions as relational coordination [3]—, affirm that relational coordination manifests the teamwork quality in teams. In this sense, teamwork quality is a multidimensional construct at a continuum of willingness and commitment of team members to share collective goals [6] and knowledge [7], have a mutual respect for other team members [8], [2], [3], [4], and communicate effectively [8]. These explanations suggest that relational coordination is well positioned to explain the quality of teamwork.

In the following paragraphs, a relationship between each individual dimension of relational coordination and the implementation of organizational routines is discussed.

II. RELATIONSHIP DIMENSIONS

Shared knowledge

The quality of teamwork is indicated by the presence in participants the attitude toward the exchange of ideas and knowledge sharing [6]. [2], [3] notion of relational coordination posits that the participants working on a work process need to know how their tasks fit together with the tasks of others so that the impact of one’s action on the others’ actions could be determined. Gittell’s idea coincides with [9] ‘team knowledge’ in which task domains are translated into shared mental models, the procedure are conceptualized in a shared understanding [5], and there exists a specific knowledge about the task related behaviors of other team members [10]. A common understanding in team members about how to execute the next task in an interrelated work process and recognize process related disruptions [6] is an important determinant of teamwork quality [5], [6].

Knowledge sharing has taken attention in e-learning literature after a recent shift away from individual behavior change theories [11], and increasing attention toward organizational level intervention [12]. Knowledge management [13] and organizational learning [14] theories are taking ground for empirical research in e-learning contexts. The personal knowledge approach to knowledge management recommends that for organizational learning to be flourished, individuals should be encouraged to share knowledge.
It is generally maintained that the knowledge in education is characterized by proliferation of information, fragmentation, distribution, and high context dependency. There exists complexity in managing healthcare knowledge especially when care providers face uncertainty, rapid change and time constraints [15], [3]; Faraj and Xiao, 2006). The need for applying specialized skills and knowledge in a timely manner [16], p. 1156 requires the organizations to develop a knowledge sharing climate [7].

The notion of knowledge sharing is having importance in education literature under the umbrella of ‘communities of practice’. The concept of communities of practice (CoP), were originally introduced in Education and Management literature. Using a knowledge management perspective for improving the implementation of organizational routines, [17] emphasize on developing a collaborative culture of knowledge sharing for improvement in the implementation of these routines.

These ideas can be extended to the implementation of evidence based practices/strategies for reducing door to balloon time.

In e-learning contexts, knowledge sharing is important among the participants involved in the process, and is more than just communicating.

**Shared goals**

The importance of shared goal (or goal sharing) for achieving best results in e-learning literature has long been discussed. Goal sharing refers to the members’ priority to team’s common task [18], [19] over other obligations [5]. In the absence of such priorities negative outcomes are expected from a work process as the participants tend to pursue their individual functional goals without taking in account the super-ordinate goal of the whole process [20]. Collaborative approaches in e-learning environments emphasize on sharing responsibility and building a consensus among team members towards achieving a common goal [21], [22]. Working together toward a prioritized common goal reflects the team members’ shared vision which has been considered as a prescription for ‘effective multi-professional teamwork’ [23]. Although teamwork is a process of achieving a common goal, the existence of cognitions, attitudes and behaviors in team members toward a shared effort for a collective team goal is important for teamwork quality [6]. Shared goal as an indicator of teamwork quality provides basis for effective relationships in organizations.

Building such relations positively affects the implementation [24].

Moreover, effective implementation of organizational routines is dependent on the sharing of common goal among all involved. From an organizational culture perspective, organizations with a culture of sharing common values and goals are most likely to succeed in their implementation efforts [25]. The PRISM model (A Practical, Robust Implementation and Sustainability Model), developed by [26] recognizes organizational culture with shared goals as an important organizational characteristic for the implementation of evidence based practices.

**Mutual respect**

In order to achieve better quality of teamwork, team members working to achieve a common goal should have mutual respect for each other [5]. More precisely, the members working on a same work process should display respect for other participants’ work [27], take into account others’ ideas, display a contributive behavior [5], and value the contributions of others [3].

Mutual respect is especially important for a work process in which many professionals with highly specialized skills, and different occupational identities and status are involved [27]. Mutual respect in this case is important because the differences in status and occupational identities serve as a source of pride, as well as a source of invidious comparison [27]. People working on e-learning programs have different status and occupational identities. However, every one’s work is important for achieving good results. The existence of distinct occupational identities creates a potential for divisive relationships, and can hamper the coordination process if disrespect takes place over mutual respect.

Implementation of organizational routines requires collaborative relationships among all involved [28]. [8] state that collaborative relationships, among other factors, depend on mutual respect. People working on a process of implementing organizational routines require positive interactions for success. However, such interactions require a sense of mutual respect [29]. In an ethnographic study on the dynamics of interactions between organizational routines developers and trainers, and organizations and providers that deliver them, [29] identified mutual respect among participants as a primary factor for the successful implementation of the most efficient model. So building a culture of mutual respect is an important facilitator theme.
for the implementation of organizational routines oriented to results.

III. COMMUNICATION DIMENSIONS

Communication has been seen as an important means of information exchange [30]. The Information Engineering approach takes communication as a linear transmission of information within an already established social context. Social construction approach to communication posits that communication has the ability not only to transmit information but also to create the dynamic context in which people work [31]. [32] describes that "communication is not just a tool that groups use; groups are best regarded as a phenomenon that emerges from communication". Thus, being an important means of information exchange [30], communication has been considered an important component of teamwork quality [5]. In other words, the quality of communication in teams indicates the quality of teamwork among participants. The quality of communication, as addressed by [3], is the frequency, timeliness, accuracy, and problem-solving nature of communication.

Frequent communication

Frequent communication refers to the extensiveness of the communication among the members of a team [5]. Frequent communication develops familiarity and helps to build relationships among the team members. This extensive type of communication enhances the quality of teamwork through its ability to respond rapidly to new information by minimizing delays [3], [33].

Timely communication

Lack of timeliness indicates the poor quality of communication [27]. Along with other established objectives like cost and quality, achieving time objective is fundamental to team performance [34]. E-learning processes that involve strict time constraints require fast response [16], and are less likely to reach time objective if lack timely communication among the participants involved. The extent to which the team members are able to communicate in a timely fashion will indicate the quality of teamwork in work process. It implies that in order to implement well designed e-learning processes, organizational change will be required to meet the challenge of improving information infrastructure for establishing effective and timely communication among e-learning actors.

Accurate communication

E-learning organizations facing high velocity environment need to operate error free [16]. A rapid response to a training problem based on false information can bring negative outcomes. Focus on the accuracy of communication is essential for reducing the occurrence of potential errors [3]. The importance of accurate communication for task group effectiveness has been recognized in [35]. It implies that accurate communication is an important component of teamwork quality. Theoretical models developed for predicting the successful implementation of organizational routines have highlighted the importance of accurate communication.

Problem solving communication

Work processes that involve interdependent activities require joint problem solving for the problems occurred [3]. Problem solving requires the members to interact positively for achieving quality teamwork through problem solving communication [36], [35], [3]. Problem solving communication can be considered as an important indicator of teamwork quality because it avoids the negative cycle of blaming and information hiding, keeping the focus instead on continuous improvement and learning [4], p. 155. Non blaming culture and openness of communication have been considered important components of positive interpersonal relationships and the quality of communication, which are important components of teamwork quality [5]. So, problem solving is an effective interpersonal skill for effective teamwork [37], [38].

Implementation process is composed of a set of generic activities that occur across an entire problem-solving sequence [39], p. 320. [40] describes that problem solving in total quality management (TQM)/ continuous quality improvement (CQI) implementation usually consists of teamwork to identify the problem, generate ideas for solutions, evaluate alternatives, and reach consensus decision making (p. 3). Using the same sense for the implementation of organizational routines, these issues need to be communicated among the participants involved in implementation process. [41] describe that developing problem solving competence in professionals is important for the implementation of the evidence based practice model. [42] also suggest that implementation needs frequent problem-solving.

Based on existing literature, following tables summarize the dimensions of relational coordination as indicator of teamwork quality.
and the effect of relational coordination on the implementation of organizational routines consecutively.

Table 1. Relational coordination as an indicator of teamwork quality

<table>
<thead>
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<th>Indicator</th>
<th>References</th>
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<tbody>
<tr>
<td>Shared knowledge</td>
<td>Cook et al., 2000; Hoegl and Gemuenden, 2001; Sapsed et al., 2002; Hoegl and Gemuenden, 2001; Faraj and Xiao, 2006; Radaelli et al. 2011</td>
</tr>
<tr>
<td>Shared goals</td>
<td>Hackman, 1987; Campion et al., 1993; Bradley et al., 2001; Hoegl and Gemuenden, 2001; Bradley et al., 2006; Curry et al., 2011</td>
</tr>
<tr>
<td>Mutual respect</td>
<td>Seaburn et al., 1996; Hoegl and Gemuenden, 2001; Palinkas et al., 2009</td>
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<tr>
<td>Frequent communication</td>
<td>Hoegl and Gemuenden, 2001</td>
</tr>
<tr>
<td>Timely communication</td>
<td>Schrader and Goepfert, 1996; Gemuenden and Lechler, 1997</td>
</tr>
<tr>
<td>Accurate communication</td>
<td>O’Reilly et al., 1977; Faraj and Xiao, 2006</td>
</tr>
<tr>
<td>Problem solving communication</td>
<td>Rubinstein 2000; Stevenson and Gilly, 1993; Bradley 2006a; Hoegl and Gemuenden, 2001; Stevens and Campion, 1999; Jackson et al., 2006</td>
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Table 2. The effect of relational coordination on the implementation of Organizational routines

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<thead>
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<th>Indicator</th>
<th>References</th>
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<tr>
<td>Shared knowledge</td>
<td>Sandars and Heller, 2006; Barwick et al., 2009; Mendel et al. 2008</td>
</tr>
<tr>
<td>Shared goals</td>
<td>Wright, 2001; Nah and Leu, 2001; Felstein and Glasgow, 2008</td>
</tr>
<tr>
<td>Mutual respect</td>
<td>Friedman and Drews, 2005; Brown et al., 2008; Palinkas et al. 2009</td>
</tr>
<tr>
<td>Frequent communication</td>
<td>Hoegl and Gemuenden, 2001; Balas et al., 2012</td>
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<tr>
<td>Timely communication</td>
<td>Faraj and Xiao, 2006; Williams et al., 1999</td>
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REFERENCES


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