Uncovering the Knowledge Coordination Process in ICT Outsourcing

Emergent Research Forum Paper

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Abstract (Required)

Knowledge coordination has a central role in the successful performance of teams in different domains (e.g. software development and disaster response). It is also critical to harmoniously manage the interplay between customer and provider in an outsourced service desk. This paper seeks to explore how knowledge coordination is performed between two organizations in such environment. To this end, this study utilizes a grounded theory approach, which helps us to improve our understanding of this particular phenomenon, while developing context-oriented theory. A case study with a South American service provider, whose main focus is to satisfy the ICT outsourcing needs of customers, uncovers four categories of coordination mechanisms necessary to leverage knowledge between the provider and the customer: understanding the customer; building a sound base; operating across teams; and enhancing practices.

Keywords (Required)

Knowledge coordination, ICT outsourcing, teams

Introduction

Organizations have increased the outsourcing of their Information and Communication Technologies (ICT) processes and functions in order to take advantages of this model. One of the most commonly outsourced function is the Service Desk (SD), which serves as a single point of contact for all of the customers and users of ICT services. In this sense, this ICT function constitutes an important brick that supports the provision of external and internal ICT services as its main objectives are to resolve and fulfill incidents and requests as much as possible, and to coordinate and route those that require escalation in a centralized way. The main advantages of outsourcing this function include (Goo et al. 2009): (i) cost reduction, as external SD providers are able to share specialized competencies and resources between several customers; (ii) focusing on core competencies by delegating the operation of the SD to an external provider and developing new projects to satisfy evolving business needs; (iii) ease implementation, as the customer does not need to be concerned about facilities or SD tools and staff.

Besides the potential advantages of outsourcing this ICT function, it involves challenges. One of the most important is knowledge coordination, between the ICT service provider and the customer’s ICT department because of the dependencies that arise between them when relevant processes are executed (Jäntti and Kalliokoski 2010). As an example of these dependencies, a typical incident begins when a SD agent (tier-1) is contacted by a costumer with a specific issue. The agent identifies the customer’s needs and addresses the issue. However, depending on the complexity, there might be no solution at this tier and the issue goes to the next tier available. Tier-2 or tier-3 are usually provided by specialists from the ICT provider and/or customer with skills that go over and above those of the agents in tier-1 and therefore can deal with more complex issues. During the incident, the impacted business areas are informed by the SD until it is solved. After the resolution, relevant participants should appropriately document the incident and proceed to close it. Along this way, both technical knowledge (e.g. ICT infrastructure,
applications, and processes) and business knowledge (e.g., priority, category, and impact) need to be
coordinated. The faster the involved tiers can troubleshoot and resolve incidents and requests the better.

In order to harmoniously manage this interplay between customer and provider in a SD, knowledge
coordination mechanisms are established within and across teams, sometimes in an explicit way
throughout legal contracts or operating procedures while in others cases throughout tacit agreements
(Goo et al. 2009). However, managing these mechanisms to effectively operate in such environment is
becoming increasingly difficult. In order to address this concern, we develop the following research
question to guide our study: how is the process of knowledge coordination carried out within and across
expert teams in the context of a SD outsourcing over time? The remainder of this paper is structured as
follows: the methodology section introduces our research design including the theoretical perspective, the
case study context and data collection techniques. In the findings section, we discuss the main
coordination mechanisms categories identified as a partial result of our data collection stage and the
paper concludes with an outlook on the next steps.

**Research Design**

Given our focus on contextual and processual elements as well as the actions of key players associated
with the organizational elements of knowledge coordination described above, we have chosen a multi-
method research approach (Mingers 2001). We expect this approach will help us to deal with the
complexities of our research problem and therefore, in the discovery of different dimensions in order to
achieve richer results. Specifically, the methodological approach chosen for this research is the use of an
interpretive, qualitative, in-depth grounded case study (Eisenhardt 1989). We have adopted this approach
for two main reasons: firstly, a case study advances the understanding of a particular phenomenon by
investigating it in its real-life context (Eisenhardt 1989; Yin 2013) and it has also been traditionally used
to study knowledge-related issues in organizational settings (Faraj and Xiao 2006; Houtman et al. 2014;
Kotlarsky et al. 2014). Secondly, grounded theory studies have been found useful in developing context-
based, process oriented descriptions and explanations of a phenomenon (Myers 1997; Urquhart 2001).
Thus, we use grounded theory as the overarching methodology to analyze data, to drive the discovery of
related categories aiming to abstract these categories into a theory, which accounts for the phenomenon
being investigated. According to the research question stated in the introduction above, we have defined
as a main goal of our research to study coordination practices that enable members of expert teams
working on complex and highly interdependent tasks from different organizations to overcome specific
issues. Following Strauss and Corbin (1990)’s suggestion, we conducted an initial literature review in
order to develop theoretical sensitivity regarding our research question, which is briefly discussed next.

**Theoretical Perspective**

Coordination in the organizational realm refers to “the integration of organizational work under
conditions of task interdependence and uncertainty” (Faraj and Xiao 2006). Early research on
organizational coordination focused on the design of organizational structures with the goal of optimizing
performance. Most recent research about this topic revolves around how coordination occurs at
organizations (i.e., coordination mechanisms or practices), assuming that work must be coordinated
regardless of the organizational structure underneath it (Okhuysen and Bechky 2009). Coordination
mechanisms refer to “organizational arrangements that allow individuals to realize a collective
performance”(Okhuysen and Bechky 2009). These mechanisms could be formal or emerge as the work is
performed (Mintzberg 1989).

One of the objects of coordination at organizations is knowledge. Consistent with the recent view of
organizational coordination, knowledge work occurs mostly at a group level and relies more on emergent
integration than on predefined organizational structures (Argote 1999; Faraj and Xiao 2006). The
coordination of knowledge may differ depending on whether the knowledge is explicit (e.g., it comes from
standard rules and routines) or tacit (e.g., it comes from interaction among workers) (Tanriverdi 1999). In
the former case, coordination may be facilitated by the usage of information technology artifacts (e.g.
knowledge management systems, databases); in the latter case, coordination may be facilitated by social
processes that foster knowledge sharing and creation (Li 2016; Tanriverdi 1999). Coordination of
knowledge often requires that individuals share, have access to, and integrate specialized knowledge from
different domains (Kotlarsky et al. 2015), while three circumstances are present: difference of knowledge
accumulated (e.g., presence of experts versus novices, specialization in a specific domain), dependence of activities (i.e. pooled, sequential, or reciprocal), and novelty of situations (Carlile 2004; Thompson 1967). Coordination of knowledge and expertise has been found to be a key determinant of successful performance of teams in different contexts such as software development (Faraj and Sproull 2000), medical trauma centers (Faraj and Xiao 2006), and disaster response (Majchrzak et al. 2007). Based on this, we have designed our empirical investigation to allow us to study in depth (1) how is the process of knowledge coordination carried out among expert teams of two organizations (i.e., SD provider and customer), and (2) how coordination mechanisms compare among expert teams within and across organizations. Next, we present our research site.

Case study context

The case study, Mesa (a pseudonym – as are all names used in this paper), is a large South American ICT Services Group. Mesa delivers ICT-related services such as consulting services; designing solutions; delivering hard- and software solutions; and integrating ICT services for both government organizations and private companies. Mesa has five main business units, however, their main focus is on the ICT services outsourcing, particularly, designing, implementing and operating the SD function. Mesa designs, implements and operates different “flavors” of SDs according to their customer’s needs. In general a Mesa’s SD comprises a tier-1 support level that has a broad understanding of the different ICT services. Tier-1 agents have basic-to-intermediate troubleshooting capabilities. In addressing customers’ requests, they first need to classify the issue and workarounds a solution using different knowledge sources; and if they find a solution the customer is then told how to fix their problem. However, if they are not able to solve it or if it is out of their scope, they classify the request and pass it on to the appropriate tier-2 or tier-3. In our case study, two customers of Mesa’s SD are analyzed: (1) an industrial conglomerate with manufacturing plants located in several countries (customer blue); and (2) a wholesaler operating stores in several countries (customer red). Mesa’s good performance has allowed them to consolidate relationships with customers for years. However, maintaining and capitalizing their knowledge among expert teams is increasingly difficult. This situation is due not only to the variety of services that are supported but also to coordination mechanisms that cease to function over time.

Data collection

As described above we are using mixed methods, particularly, grounded theory not only for the data collection and analysis but as a set of techniques for exploring ideas and concepts that emerge through analytically grouping the data. This process keeps our analysis close to the case study. In addition, it provides for inductive discoveries of rich contextual organizational justifications about the phenomenon under study. The evidence on which this paper rests was collected over a 3-month time period, mainly from a series of in-depth semi-structured interviews and internal documents (Yin 2013). Interviews were conducted onsite with members of both Mesa’s SD teams (blue and red). Our first interviewee was the head of the two teams and a chain referral sampling has been used to recruit other participants.

An open coding of interviews followed each round of data collection; some of these codes were derived from specific goals stated by the interviewees. As more data were collected, the open coding continued and categories began to emerge by grouping similar concepts together. The three authors engaged in several rounds of discussions during which categories were re-examined, referred back to codes and reorganized. However, since we have not reached exhaustion in the categories discovered, the data collection stage will continue to be developed. The findings from the coding process conducted to date are described in the following section.

Preliminary findings

The first rounds of data collection led us to identify four groups of knowledge coordination mechanisms carried out among expert teams of two organizations (i.e. provider and customer): understanding the customer; building a sound base; operating across teams; and enhancing practices. The first group, understanding the customer, relates to the mechanisms that seek to articulate the customer’s expectations with the provider’s offer of SD. In this group, the following mechanisms have been identified: (1) interviews conducted by the pre-sales personnel with the IT department director, or IT specialists in order
to obtain information about general characteristics of the customer (e.g., location, main activities) and what is expected from the SD (e.g., services that have to be delivered, how they are to be delivered, and the expected outcomes of the SD operation); (2) secondary sources of information, such as strategic documents of the company (e.g., balanced score card indicators) that serve to characterize the customer and their needs; (3) the proposal, where the service provider (a) performs a strategic analysis of the customer, highlighting the strategic goals supported by the SD and (b) details the service strategy (e.g., general scope considering the customer's expectations and budget, goals of the SD, and specific aspects of the implementation such as timeline); and (4) the contract, which follows the acceptance of the proposal and formalizes aspects such as the service level agreements (SLA) and penalty clauses.

The second group, building a sound base, relates to the mechanisms that aim to define the service scope and to develop the necessary capabilities to operate the service. The following mechanisms have been found: (1) team’s kick-off meeting, where responsibilities and goals are assigned to the different teams involved, as well as to each of the team members; (2) work plan, where the work breakdown structure and deliverables are defined; (3) interviews conducted with the customer’s specialists, to collect information relevant for the service catalog; (4) a service log, where all details related to a particular service (e.g., what the service does, who is the service’s owner, SLA) are recorded; and (5) tier-1 agent training, which can be conducted through (a) the elaboration of service logs, (b) working with specialists, (c) a portal with courses and tests, (d) visit to and interaction with users, and (e) what has been called as “kangaroo” plan (i.e., a new tier-1 agent working next to a more experienced one to learn about the daily tasks).

The third group, operating across teams, concerns the mechanisms used to identify, diagnose, route and resolve incoming incidents and requests from a procedural perspective. In this group, the following mechanisms have been found: (1) analysing business activity patterns when assigning urgency and impact levels in order to assign priorities; (2) using acquired capabilities and lessons learnt to deal with incoming cases; (3) escalating incidents to tier-2 or tier-3 depending on the ICT service involved in the incident or request; (4) executing specific procedures for critical and mass incidents; (5) being aware of the SLA in order to keep resolution times within the agreed target; (6) communicating the current state of the incident or request to users.

The last group, enhancing practices, relates to the mechanisms that aim to improve in a systematic way the activities performed in the first three groups. In this group, mechanisms to formalize, preserve, update, and retrieve knowledge may appear. The only mechanism found so far in this group is the knowledge repository, where all the service logs are kept and consulted whenever a particular incident or request arises. However, preliminary findings indicate that this repository is usually not up to date and some tier-1 agents are even unaware of its existence. It is not even clear whether tier-2 and tier-3 personnel are involved with managing such repository.

**Conclusion and Next Steps**

Considering the central role of knowledge coordination in the successful performance of teams in different domains, this paper sought to explore how knowledge coordination is performed between two organizations in the context of SD outsourcing. To achieve this research objective, this study utilizes a grounded theory approach, which has helped us to improve our understanding of this particular phenomenon, while developing context-oriented theory. A case study with a South American service provider and two of its customers uncovers four groups of coordination mechanisms necessary to leverage knowledge between them in order to successfully establish and operate a SD. The mechanisms identified in the four groups are consistent with the types of mechanisms found in previous literature when the coordinated knowledge is explicit (e.g., the use of a knowledge repository in the fourth group) or tacit (e.g., interviews with customer’s specialists in the second group). The collected data and the analysis performed reveal that the problems related to maintaining and capitalizing knowledge among expert teams is derived mainly from the lack of coordination mechanisms in the fourth category.

To further develop this study, a thorough analysis of the mechanisms found in the four categories will be elaborated. For this purpose, four dimensions of those mechanisms will be considered (what, how, when, and who). Three of this dimensions were proposed by Faraj and Xiao (2006), to be used in situations where knowledge work is interdisciplinary and highly contextualized. In particular, the authors: (1) pointed out that in the analysis of knowledge coordination mechanisms, there was one predominant dimension considered: how (i.e., the mode of coordination); and (2) proposed to focus also on other
dimensions that are equally relevant in contexts where interdependencies change and knowledge work is performed predominantly in teams: what (i.e., content of coordination) and when (i.e., circumstances of coordination). In order to capture the full scope of knowledge coordination, Houtman et al. (2014) included a fourth dimension: who (i.e., specific individual(s) participating). According to these authors, this dimension is relevant in situations where tacit and personalized knowledge is required (Kotlarsky et al. 2014; Majchrzak et al. 2007). In addition to the analysis of these fourth dimensions, future steps will involve comparing the identified coordination mechanisms within and across expert teams.

References


