The reconfiguration of service production systems in response to offshoring: A practice theory perspective

Brandl, K.; Mol, Machiel; Petersen, B.

DOI:
10.1108/IJOPM-07-2015-0430

Document Version
Peer reviewed version

Citation for published version (Harvard):
Brandl, K, Mol, M & Petersen, B 2017, 'The reconfiguration of service production systems in response to offshoring: A practice theory perspective', *International Journal of Operations and Production Management*, vol. 37, no. 9, pp. 1246-1264. https://doi.org/10.1108/IJOPM-07-2015-0430

The reconfiguration of service production systems in response to offshoring - a practice theory perspective

Purpose – A service production system has a structure composed of task execution, agents performing tasks and a resulting service output. This paper aims to understand how such a service production system changes as a consequence of offshoring.

Design/methodology/approach – Drawing on practice theory the paper investigates how offshoring leads to reconfiguration of the service production system. Through a multiple case methodology, we demonstrate how agents and structures interact during reconfiguration.

Findings – The paper analyses the reconfiguration of components of a service production system in response to change ignited by offshoring. We find recurring effects between structures that enable and constrain agents and agents who shape the structure of the production system.

Research limitations/implications – The paper offers a novel contribution to the service operations management literature by applying practice theory. Moreover, we propose a detailed, activity-driven view of service production systems and service offshoring. We contribute to practice theory by extending its domain to operations management.

Practical implications – Service production systems have the ability to self-correct any changes inflicted through offshoring of the systems, which helps firms that offshore.

Originality/value – The paper proposes a novel representation of the service production system and describes how it responds to offshoring. We contribute by applying practice theory to the service operations management field and offshoring. We inform service professionals and offshoring managers.

Keywords - Service production system, Practice theory, Offshoring services, Global Operations Management

1. Introduction

A production system of services may be subject to sudden changes that affect all elements of the system - resources, execution, and outputs - and how these elements fit together. One example of such a change is offshoring, the geographic relocation of a service from one country to another. Services offshoring is a prominent feature of today's global economy and there is potential for further relocation of service jobs (Blinder, 2009). Moreover, firms are increasingly reconstructing themselves as a flexible, modular collection of services shored from various locations (Lewin *et al*., 2009).

We know a great deal about *resources* deployed in the production of services – before and after offshoring. Service offshoring research has largely revolved around human resources, especially labour cost arbitrage and the race for talent (e.g. Lewin *et al*., 2009). The service *output* before and after offshoring – to what extent firms can maintain, or even improve, service quality in new locations – is also relatively well researched (e.g. Aron *et al*., 2008).

What we know less about is the extent to which the *execution* of service tasks, i.e. the production of services (e.g. Goldstein *et al*., 2002) is subject to change as a consequence of offshoring (see Brandl, 2017, for an exception). For example, in the case of Outsourcia, a Moroccan provider of offshore services, "employees soon progressed beyond simply fielding complaints and inquiries to developing close and continuing relationships with the clients" (*Financial Times*, 2013). Outsourcia provided clients with a tailor-made testing and learning platform to explore new approaches to customer relationship management.

Thus, the central research question of this paper is: *How does change to an existing service production system, caused by an offshoring decision, elicit a reconfiguration of that system?* Our

systemic approach requires us to study the *interaction* of resources, task execution and outputs, rather than one of these components in isolation as we expect that the change of one component is likely to affect the other two, and vice versa. This implies studying the interfaces of these components in a service production system before offshoring, during the transition and after offshoring.

Although we take into consideration other theories, we draw especially on practice theory (Feldman and Orlikowski, 2011; Nicolini, 2012), a perspective well suited to investigating how practices inside organisations, including service production systems, change over time. More specifically, as suggested by Pentland and Feldman (2005), we first study components of a routine (a service production system) before taking into account their mutual relationship and the process through which individual components change. The key strength of this approach is that we situate offshoring in service operations management (SOM, see Machuca *et al*., 2007; Correa *et al*., 2007). Furthermore, our use of practice theory answers calls in SOM to account better for the organisational aspects of operations, especially interchanges between individuals and structures (Ostrom *et al*., 2015; Subramony and Pugh, 2015). Empirically we apply a multiple case methodology of six offshoring cases that comprise rich data and reveal substantial managerial challenges.

We proceed as follows: Section 2 outlines the research field and extant literature (including SOM), the phenomenon (service offshoring), and the theory (practice theory) in which this study is embedded. In combination this leads to a conceptual model guiding our empirical analysis. Section 3 describes the research methods employed. Section 4 presents the empirical evidence. In Section 5 we analyse across the cases and discuss the implications of our work. Section 6 concludes the paper with a discussion of the limitations of the study and future research avenues.

2. Literature review and conceptual model

2.1 Service production and SOM

Operations management researchers have increasingly acknowledged the importance of services (e.g. Roth and Menor, 2003; Grönroos, 1988), leading Chase and Apte (2007: 376) to conclude that service operations constitute "an important and fertile area of research". The unique characteristics of services and extension of existing SOM work with new service concepts (e.g. Ostrom *et al*., 2010; Ostrom *et al*., 2015; Subramony and Pugh, 2015) are of particular interest. Service operations are no longer seen as chains or sequences (Machuca *et al*., 2007; Goldstein *et al*., 2002) but rather as systems with high reciprocity (e.g. Sampson, 2012; Stabell and Fjeldstad, 1998). Maglio *et al.*, (2009) define service systems as configurations of resources that are categorised into people, organisations, shared information (e.g. language, laws, measures, methods), and technology. These components are connected internally, as well as externally, to various other systems, by value propositions.

The SOM literature has called for more studies of service systems, concepts and designs (e.g. Johnston, 2005; Ponsignon *et al*., 2011). There is a clear overlap between the focus of this paper and some of the priorities mentioned, such as the design, co-creation and value of services (Ostrom *et al*., 2010); the link between individual and organisational unit level antecedents and outcomes, including HR practices, and applying a micro-foundational approach where individual actors' actions matter (Subramony and Pugh, 2015); the understanding of organisation and employee issues; the global context of services; and service design (Ostrom *et al*., 2015). In the discussion we address in more detail this paper's insights in these areas.

2.2 Resources and task execution in offshoring

The offshoring literature suggests that advantages are derived from the substitution of onshore resources by offshore resources, but also from changes in how tasks are executed (e.g., Srikanth and Puranam, 2011). Our literature review suggests that moving service production offshore. a) involves significant organisational changes, and b) impacts upon both the (human) resources deployed and the way these resources produce services.

The offshoring literature has studied various aspects of resources and capabilities, including the importance of resource differences between locations, particularly in terms of human resources (e.g. Dossani and Kenney, 2006). Jensen and Pedersen (2011) studied the skill-sets sought after in offshoring. Aron *et al.* (2008) examined the extent to which similar quality levels can be obtained offshore, given resource differences. Another branch of the literature has focussed on governance modes in offshoring, sometimes in relation to performance outcomes (e.g., Bertrand and Mol, 2013).

Task execution has been another topic of interest. Luo *et al.*, (2012) examined how information is used in offshoring and recommend that process integration should be matched with task characteristics and task interdependence. Brandl (2017) identifies the creation of direct and indirect value created through task execution for service clients and offshore service providers. Various studies look at coordination of tasks (e.g. Srikanth and Puranam, 2011; Kumar *et al*., 2009) in the organisation design tradition (Thompson, 1967). For instance Larsen *et al.* (2013) investigate the role of prior experience and how hidden costs emerge when complex tasks are offshored. Jensen and Pedersen (2011) include tasks and resources, but the way the offshored task/activity is executed is taken as given. Consequently, resources are assumed to fit with task characteristics. These arguments are in line with resource-based theory (Barney, 1991), which emphasises the combination of resources, activities and

country contexts. Consistent with the need for cultural alignment in offshoring (Metters, 2008), the notion that task execution may need to be adjusted to fit offshore human resources, or more generally that resources and execution need to be reconfigured when relocating, is central to our study.

2.3 A practice theory perspective

Practice theory allows for active agency, embracing the idea that individuals shape how offshoring takes place. The theory also takes into account the structure in which tasks are executed and helps us bring together the different aspects in a dynamic fashion (Feldman and Orlikowski, 2011; Feldman and Pentland, 2003; Nicolini, 2012). We further believe practice theory can produce novel insights for the area of SOM.

The central object of practice theory is practices inside organisations, for instance the practices of strategy (Paroutis and Heracleous, 2013) and work (Nicolini, 2012), rather than organisational structures or managerial decision-making. Feldman and Orlikowski (2011) and Nicolini (2012) provide good overviews of practice theory. Since there are multiple branches of practice theory (Nicolini, 2012), and because it is novel to SOM, we stipulate our use of the theory. Practice theory is particularly useful when operations are complex and emergent. With offshored services tasks, complexity is aggravated by geographical and possibly organisational separation of client and service provider, which can act as a major obstacle to effective production (Lewin *et al.*, 2009).

In terms of service production, a first implication of practice theory is that services continuously change shape as a consequence of what those producing the service do; "social life is an ongoing production and thus emerges through people's recurrent actions" (Feldman and Orlikowski, 2011: 1240). This insight provides us with a process perspective. Our research question mandates a process

view to understand how events unfold over time (before, during and after offshoring). Another important premise is the view that human agency/agents and structures represent a duality (Feldman and Orlikowski, 2011; Giddens, 1984). This implies that agents and structures mutually reinforce each other in the development of practices, or that "behind all the apparently durable features of our world there is always the work and effort of someone" (Nicolini, 2012: 3). We see task resources as agents and task execution as the structure with(in) which these agents operate.

From a practice theory perspective, the service production system can be seen as a routine, i.e. a way of doing things. Central to our use of practice theory is the observation that routines do not necessarily imply inertia (Feldman and Pentland, 2003), and more specifically that routines are implicated in organisational change, e.g. due to exogenous shocks (Feldman and Orlikowski, 2011: 1248). Empirically we study the routine prior to offshoring and at various phases during offshoring, to investigate how and how much it changes. The practice perspective further suggests that practices help create and modify organisational assets (Regner, 2008), i.e. there is a recursive relationship between how services are performed and the resources used to perform them.

Feldman and Orlikowski (2011: 1250) maintain that "[T]he development of the routine occurs through the enactment of it. There are two primary dualities engaged in theorizing routines as practices: Agents/structure and stability/change." The identification of these two dualities forms another important part of our empirical investigation: how do agents' actions and organisational structures mutually reinforce each other and to what extent are stability and change two sides of the same coin?

2.4 A framework for studying practices in offshored service production systems

We discuss three central components, namely *task resources*, *task execution* and *task outputs*, one prior to describing the system comprised of all three (Pentland and Feldman, 2005).

Task resources. Key resources in services are human assets, i.e. agents producing the services, including operational personnel and managerial staff. We use the term "agents" in line with practice theory (and agency theory or other social science theories), i.e. more broadly than in colloquial usage. The knowledge possessed by individual agents is crucial for service performance, especially in knowledge-intensive services. One key characteristic of offshoring is that offshore agents replace most, or even all, onshore agents. The literature (e.g. Lewin *et al*., 2009) suggests that the key knowledge-creating characteristics of these agents are their *education/training* and *experience*. Training involves both formal education and task-specific training, while experience refers to learning-by-doing in the context of a specific industry, organisation, or task.

Task execution. Task execution sets boundaries around how agents perform the service. However, our practice-based perspective suggests that agents also affect structures, and more particularly that the two act as a duality. Extant literature (Luo *et al.*, 2012; Stabell and Fjeldstad, 1998; Jensen and Pedersen, 2011) suggests that task execution includes two dimensions: the degree of task standardisation and the degree of coordination with other tasks.

The degree of *standardisation* varies from completely discretionary to completely rules-based tasks. Discretionary tasks are flexible, non-standardised and depend on personal judgement and tacit

knowledge. They are based on professionals' use of existing knowledge or generation of new knowledge. By contrast, standardised tasks depend on rules and standard operating procedures (SOPs).

The degree of task *coordination* makes up the other dimension of task execution. It refers particularly to the task integration level in relation to surrounding activities. A task is highly integrated when there is a considerable amount of interaction and knowledge exchange between agents who perform the task and agents who are not directly related to the task, but provide its inputs or use its outputs. Thus, management responsibilities over the task and quality measurements become important for this integration and require coordination efforts.

Task output. Together, resources and execution determine the output the system produces. Whereas task resources and task execution are described by their supply-side attributes, task output is primarily characterised by demand-side factors, namely the value-in-use as perceived by the customer and the exchange value, the price a customer pays for the service (Bowman and Ambrosini, 2000). This price includes salaries, training, and travel costs for employees and additional costs that are spent in the production of services. For reasons of simplification, we assume this price to reflect the value-in-use, including the service quality as perceived by the customer. We recognise that there are difficulties with the concept of value and that some services have industry-based standard fees (Nachum, 1999) that impact upon service valuation.

The service production system. The components of the service production system are interdependent and this dependence is subject to change. We seek to understand how structure and action interact and

how the system moves from one snapshot to the next. Some change in structure will take place over time, regardless of whether offshoring or some other force is imposed on the system (Feldman and Orlikowski, 2011). Changes may involve new human resources (agents), different execution and different outputs. Change can also be a result of agents' actions inside the system (Giddens, 1984). Figure 1 depicts the three components of the service production system inquired. This model guides our empirical investigation.

Insert Figure 1 about here

3. Methods

3.1 Research setting

We apply a multiple case study approach (Eisenhardt, 1989) to enable existing theory to be extended through elaborations (Ketokivi and Choi, 2014). Qualitative research approaches foster a high level of detail and provide a multi-level, dynamic and micro-foundational perspective on processes (Langley, 2007). Such an approach is consistent with practice theory (Feldman and Orlikowski, 2011) and allows us to apply an abductive research methodology (Dubois and Gadde, 2002), suitable for refining theory and modifying frameworks, "partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process" (Dubois and Gadde, 2002: 559). By combining theory and the unique context we produce somewhat generalisable findings and propositions (cf. Eisenhardt, 1989).

We study services that were moved offshore to India and observe the production process (six months) prior to the offshore initiation; the offshoring transition from initiation until the offshore service provider takes full responsibility; and post-offshoring production until six months after transition. This is consistent with a synthetic research strategy (Langley, 2007) that implies clear process boundaries and sequences. These time intervals were partly designed by the researchers (i.e. start and end date) and partly followed the actual length of transition processes.

The unit of analysis is the service production system. Six cases were chosen purposefully to increase the external validity of the findings by allowing for diversity in terms of knowledge intensity and nature of the services, service receiver diversity (i.e. industry context, location), offshoring time, and offshoring approach (i.e. governance structure). The service provider location was kept constant with India as the local context (e.g. education possibilities for resources) required uniformity. The cases focus on different services: (A) financial management reporting and reconciliation; (B) demurrage [1]; (C) market intelligence; (D) project support; (E) competitive intelligence; and (F) IP and R&D research (see Table 1 for more details on the cases). We anonymised the service receiver firms that belong to these cases into Tankor (Cases A and B), Terminality (Cases C and D) and Chemiso (Cases E and F).

Insert Table 1 about here

3.2 Data sources

Data was generated from primary and secondary sources. Primary data was generated through 101 semi-structured interviews with individuals located onshore and offshore. The interviewees either produced the service or coordinated the task execution. Positions included executing employees, team managers, training managers, offshoring managers, heads of division and transition managers. Interviews lasted on average one hour and ranged from 30 to 120 minutes. The interviews for cases A–D were conducted between June 2012 and February 2013, while interviews for cases E and F were conducted from October to December 2011.

A first interview guide included questions to clarify our understanding of the service production system and the impact of offshoring. We then modified the interview guide slightly to focus more on the three offshoring phases as well as changes in resources, execution and output. The revised interview guide (available upon request) contained questions on the service production process and on how offshoring unfolded and affected service production. Follow-up and clarification interviews were conducted when information was missing or unclear, until saturation of information was reached. Each interview was recorded, transcribed and coded using NVivo 10. Codes were developed by all researchers and were based on existing literature.

Although the data reflects a longitudinal process, i.e. three offshoring stages, data collection took place retrospectively. Retrospective data collection enables a complete understanding of processes and enables analysis of the relationship between causes and effects (Voss *et al*., 2002). However, we acknowledge that retrospectively generated data can imply memory loss and retrospective sense-making biases (Voss *et al.*, 2002). This risk was minimised through the use of secondary data, including offshoring timelines and SOPs, which enabled triangulation (Yin, 2009) and a more precise understanding of time frames and activities as well as increased reliability and validity.

4. Data analysis

Data are analysed in two parts that both study dynamic movements: first, we provide a cross-case analysis (Voss *et al*., 2002), focusing on movements within the service production system components from one phase to the other (pre-offshoring to transition and transition to post-offshoring). Data are presented and analysed for each component of the service production system via tables and accommodating elaborations that discuss these change processes. In the second part of this analysis, we analyse the interplay between the three components of the service production system using narrative analytical replication (Eisenhardt, 1989), which emphasises causality in the service transition processes. This inquiry is dynamic and process-focused, studying the interdependence of the components and their causal relationships in the different phases.

4.1 Components of the service production system

Task resources

In all cases offshoring started with a change in deployment of human resources. Operational offshore agents gradually replaced onshore agents, many of whom had extensive business experience. Table 2 shows key features of task resources.

Insert Table 2 about here

Formal education and training. Most resource alterations related to the formal education of operational agents. The firms initially expected to hire people with the same educational level, especially for judgement-based services, so that skills would not be compromised by relocation. However, it proved difficult to hire such people and compromises were made, including increased training (e.g. in case D). Prior to offshoring, training was unstructured and highly educated agents simply learned by doing. An exception is case B, where the education level increased from administrative and secretarial backgrounds prior to offshoring to highly educated operational agents with engineering and MBA degrees in the post-offshoring and especially transition phase, because this was deemed necessary for exercising highly judgement-based services.

Business experience. A lower level of business experience among the operational offshore agents became evident. The cases show that newly hired offshoring agents without any company experience worked together with firm-internal agents who had gone through offshoring transitions before and were referred to as "transition agents". After the transition period transition agents were relocated to new offshoring projects.

Firm-specific experience of transitional agents was low in cases A–E, but in case F two employees were relocated from another offshored activity at Chemiso. The newly hired operational agents lacked firm and often also industry experience. Yet, such experience was needed to understand the context, especially in judgment-based cases B, E, and F. However, even in cases A, C, and D

industry experience was considered important. A controller from the Danish onshore team in case A recalled: "*They didn't even know what the shipping industry was all about.*"

Whereas the education level of the offshore executing agents matched that of the onshore counterparts, their task experience was limited. Prior to offshoring, onshore agents had shared their task experience in lieu of formal education, as in case B. However, there were also cases like C and F, where onshore staff knew the preferred contents for reports yet lacked task experience. Through offshoring the client firm increased the level of expertise: "*We hired people who had prior experience working in these areas [...] that really helps as you know they are already trained to quite an extent.*" (Team Leader, offshore unit, case C).

Amount. The teams of operational agents increased in size after offshoring. Where tasks were uncoordinated and unstructured, such as in cases C, D and E, this was mainly because the task was executed and coordinated in a single location for the first time. In the other cases the growth of the team during transition was apparently due to an underestimation of required manpower resources and training needs. However, what initially seemed to be a temporary team expansion became permanent in case E, but not in cases A and B.

Task execution

As a result of the change of resources, tasks were executed in new ways. Table 3 shows task execution characteristics, especially standardisation and coordination.

Insert Table 3 about here

Standardisation. The standardisation level in the pre-offshoring phase varied considerably across the cases, from somewhat standardised through existing SOPs (case A) to, chiefly, non-standardised (cases C and E). Despite these differences, in all cases the level of standardisation increased during transition, for example through documentation of activities in SOPs, helping firms to control the offshoring process and allowing offshore operational agents to better understand requirements.

The development of structures and SOPs was essential for accomplishing offshoring and the standardisation in the transition stage was dictated by, and driven from, onshore locations. Due to the lack of task experience at the beginning, offshore units had little understanding of how to standardise processes. Codification and standardisation of tasks was especially difficult in high judgement cases such as B, E and F, which meant some SOPs lacked clarity and detail. Once the offshore unit took over full responsibility of the tasks it developed clearer SOPs, for example via *kaizen* or Six Sigma approaches. These actions were formally supported by management and financially and/or intrinsically rewarded. In case D, the offshoring team recalled, "*When we took over an activity and […] we were performing 100% on it, we developed the SOPs ourselves […] I myself proactively intervene at various junctions.*"

Standardisation involved task and process standardisation: the former refers to the entire task while the latter is restricted to certain parts of task execution. An analyst of the Indian offshore business unit in case C said: "*For most of the requests the kind of data that needs to be extracted or delivered is*

quite common. So those common areas were identified and put up in a standard template." Even in cases B, E and F, tasks and especially processes underwent some standardisation. But standardisation efforts diminished in the post-offshoring phase when Indian operational agents realised the difficulties associated with complete standardisation. In conclusion, standardisation occurred predominantly in the transition phase driven by experienced employees from the onshore unit, followed by standardisation efforts of offshore employees while they accumulated task execution experience during the transition phase.

Coordination. The coordination of tasks differs across the cases depending on service characteristics, in terms of integration levels, scope and improvement in task execution methods. Nonetheless, there are also similarities. For example, prior to offshoring informal improvement measures were preferred in all cases and no formal improvement documents were provided. During the transition and post-offshoring phases there was gradually more formalisation, especially in the medium-judgement cases A, C and D. The Indian Offshoring Manager in case D explained: "*We're going to pick it up and put it in [the offshore unit] at the same performance level as you have it right now and then once the migration is complete […], then we will see how to improve it.*."

These formal enhancements were supported through improvement platforms with incentives for the individual operational agent (or the team) and through efficiency improvement methods such as *kaizen* or Six Sigma led by operational staff and managers in the offshoring unit. This formalisation allowed for greater control and coordination of the services, resulting in changed task execution.

Depending on the services and their overall importance, the integration of tasks with the rest of the business unit differed. In cases with limited integration (C and E), task execution was quite

unstructured and poorly coordinated before offshoring. Through the geographic relocation of tasks these became more integrated and better coordinated, which might be interpreted as a positive spillover effect of offshoring. In case E, if onshore agents needed information about competitors or markets, they retrieved it themselves. After offshoring, the offshoring unit coordinated all requests, searched and documented information, and distributed it more widely in Chemiso. However, in cases A and B the task was highly integrated before offshoring and became more separated from Tankor afterwards.

Moreover, responsibility for the specific services shifted to operational agents. In the transition phase, managers from the onshore and offshore units shared responsibilities in all cases where the services were offshored within the conglomerate (cases A–E). This meant that the offshore unit, known as the Global Service Centre, supported the transition by appointing an offshoring manager. Depending on service characteristics, management responsibility was then either transferred to the offshoring location (cases A and B), or remained with the onshore location (cases C and D). In cases E and F, where services were offshored to external service providers, the onshore unit kept management responsibility.

Moreover, in cases C, D and E, the services were produced in an unstructured manner at various business units in the firm and not reported appropriately. In case F, the service was produced in an incidental manner in the legal department or the R&D division. Case B is a special case: despite the possibility of measuring the quality of demurrage services, the Head of Offshoring at Tankor recalled: "*We believed that things were done in the most effective way.*" Measures that gauged the quality of the services were only in place in case A. Most of these measures were dated and had to be reworded or redesigned in the transition phase. This lack of quality measures is surprising, but might be explained by the informal work culture in countries like Denmark and the Netherlands.

The lack of quality measures challenged the offshore unit, especially in the transition phase. As the Head of Offshoring of Terminality (case D) explained: "*There wasn't a lot of baselining done before shipping it to the [offshore location]*." In the transition phase, each onshore location decided upon measures for assessing task output through offshoring to study offshoring benefits and drawbacks. Key performance indicators (KPIs) were used to define and assess these outputs, based, for example, on reporting quality indicators, structure or time spent on tasks. In judgement-based cases these new quality measures were often difficult to design.

Task output

Value. A change in task resources, task execution or both led to changes in task output. Table 4 reflects task outputs as the value of the services. In order to operationalise the notion of value, which we earlier described as the price customers pay for services, we use the level of spending, i.e. salaries, training, and travel costs for employees and additional costs incurred in service productions. The baseline for this assessment is pre-offshoring spending; transition and post-offshoring spending can be higher, lower or the same (we acknowledge the limitation of using this spending measure as the sole identification of value and return to this in the limitations section). The cost savings resulting from offshoring were evident across the cases and were associated with a significantly lower wage level in India. For case B it was estimated that approximately USD 100,000 were gained in annual cost savings per agent employed in India. In case F both onshore and offshore informants suggested lower spending in the post-offshoring phase, in contrast to the transition phase where training took place in parallel with daily work – leading to increased costs per output in cases A, B, E and F. As the number of offshore agents was comparatively low in case C, the transition phase also produced lower spending.

Insert Table 4 about here

4.2 Reconfiguring the service production system

The cases demonstrate how offshoring led to changes of task resources and task execution, and in turn leading to changes in task output – instigating a need for a new balance between these components of the service production system. The reconfiguration of the system was initially triggered by change in human resources. While in the pre-offshoring phase the services were produced by agents with extensive business experience, offshoring implied that the levels of experience, especially firm and task experience, dropped. In case B, for example, the demurrage service required a deep understanding of the task, the firm, and the maritime industry. While this understanding was evident in the pre-offshoring phase, once offshoring was initiated business experience was in short supply. The more business experience was lacking, the more important training of agents became, as did the need for task standardisation to ease the offshoring transition.

In other words, the service production system went through a phase of destabilisation. This was quite evident in case B, where tasks could not be executed in the same manner offshore, and in cases E and C, where the services were produced in an unstructured manner by the business units. The implication was that these services were not well integrated into business operations, a key feature of task execution. Although agents' firm- and industry-level experience was high, task-level experience

was limited in both cases. Formalisation and standardisation of the services led to higher integration levels, as did provision of human resources trained and dedicated to services production.

As a result, structural changes were instigated that induced agents to initiate various responses as part of reconfiguring the service production system. When the services were offshored the resources changed and this resulted in incompatibility between the "new" resources and the "old" ways of executing tasks. To bring task resources and execution back in line, action by agents was required. In case A, for example, business experience of onshore agents was very high regarding tasks, the firm, and the industry. Once the service was offshored, the business experience level dropped, which in turn triggered a need to adapt task executions to the new task resources. Hence our first proposition:

> *Proposition 1: The change in task resources (agents) associated with offshoring of service production systems elicits a need to reconfigure task execution (structures).*

Building on this initial insight, we note that new SOPs were required to enhance task execution and standardise processes. Due to the offshoring context, onshore agents with extensive business experience started to standardise the services that were accessible to offshore agents with lower levels of experience. Standardisation of tasks lowered the degree of discretion and the need for coordination through decoupling. A key observation here is that this change strongly depended on the initial structure of task execution. In cases B, D, E, and F, characterised by very low levels of standardisation prior to offshoring, the task execution methods changed due to the higher degree of standardisation. Conversely, where the execution process was already documented and more standardised in the pre-offshoring phase, the need for structural changes was lower.

In the later stages of the transition phase, actions by agents were intended to reconfigure the structure of the service production system. Offshore agents attempted to compensate for a lack of business experience by demonstrating high levels of motivation to adapt task execution to their own capabilities, especially in high judgement cases such as cases B, E and F, which were often said to be impossible to standardise by onshore agents. These improvements and the increased coordination that resulted correlate with standardisation of tasks. Thus, the aim to standardise tasks further and design SOPs to improve processes changed task execution again. Predominantly formal improvement mechanisms were designed by offshore agents to improve efficiency in task execution, allowing agents to suggest changes and take measures into their own hands: "*Here in India for example, every GSC [Global Service Centre] wants to show efficiency and that we can add value to the business*" (Global Business Process Improvement Manager, offshoring unit, cases A and B). Against this background we formulate a second proposition:

> *Proposition 2: The reconfiguration of service production systems where offshoring has led to changes in task execution takes place through actions of first onshore, then offshore agents.*

At the end of the transition period, the education and training level and the business experience of agents became better aligned with task execution. Task execution had either self-adapted to the changed level of resources or was altered to comply with the abilities of the agents. These changes resulted in standardisation through SOPs – even for some high judgement cases that were initially deemed unsuitable for standardisation. Thus, our third and final proposition is:

Proposition 3: Stabilisation of offshored service production systems is reached through recurring changes of task resources (agents) and task execution (structures) until these become realigned.

5. Discussion

We are now able to establish commonalities across the six cases by presenting key findings that address our research question – *How does change to an existing service production system, caused by an offshoring decision, elicit a reconfiguration of that system?* Offshoring is considered as one source of change, but we suggest that the propositions also apply to other changes. The conceptual model in Figure 2 accompanies this discussion and describes *general* changes (and concomitant reconfigurations) of service production systems. The model reflects the process the system undergoes from pre-offshoring via transition to post-offshoring stages. It includes the derived propositions..

More specifically, the service production systems in our cases were characterised by relative stability prior to offshoring, as they were not subject to on-going improvement efforts. This observation does not necessarily imply that the systems were stable, merely that they were subject to few and minor changes (as indicated in Figure 2).

Insert Figure 2 about here

Institutional and factor endowment differences (Lewin *et al.*, 2009) between offshore and onshore locations, rather than any firm-specific variables, played a key role in determining the extent of change in the service production system, particularly the resources deployed. The educational background of the operational agents hired in the offshore location was equivalent to, or in some cases even higher than that of onshore agents; yet it came at a lower cost (Dossani and Kenney, 2006). Use of overqualified staff puts pressure on the labour force in emerging countries such as India, which in turn leads to dwindling cost advantages over developed economies.

Even though the offshore agents had task experience, a lack of industry- and firm-specific knowledge adversely affected their ability to perform tasks as they had hitherto been defined. In fact, agents' levels of business experience dropped in all cases, which induced a need to train agents. The change in agents caused the service production system to destabilise because resources became poorly aligned with the old way of executing tasks, i.e. the structure. The subsequent changes demonstrate how agents' actions and changing structures reinforce each other (Feldman and Orlikowski, 2011).

Responses came from two types of agents, initially onshore agents and, over time, offshore agents. To help cope with the lack of experience and inside knowledge of frontline employees, onshore agents introduced several changes, including the formulation of SOPs. This standardisation lowered the degree of coordination required (according to Srikanth and Puranam, 2011) and decoupling took place as discussed in Thompson (1967). Simultaneously it also lowered the degree of discretion granted to those executing these tasks. In our cases tasks were initially highly discretionary and knowledge-

intensive. Some standardisation and disintegration took place during the transition phase and, although essential information for task execution was often still sourced from the onshore client business unit, the integration level dropped further in the post-offshoring phase. The extent of such changes mainly depends on the initial structure of task execution, i.e. the baseline (Jensen, 2011). The better documented the execution process, the lower the need for coordination.

In the transition phase, we observed actions by offshore agents, i.e. employees attempted to compensate for a lack of task experience and firm knowledge by developing new SOPs. However, in some instances standardisation of the task and codification/documentation were difficult (Srikanth and Puranam, 2011), which caused SOPs and documents to lack clarity and detail. The quality of outputs was often not formally measured prior to offshoring, making it difficult for the onshore business unit to trace quality improvements. In the absence of prior experience with measuring discretionary services, these measures were highly quantitative and focused on turnaround time rather than actual quality, leading to more standardisation. Later, frontline employees tried to standardise tasks further through formal efficiency improvement tools like *kaizen* and Six Sigma, often in conjunction with more and clearer SOPs.

There is some irony in this development, as we observed services that lacked standardisation and depended on experience when still performed onshore and should therefore be unsuitable for offshoring (Srikanth and Puranam, 2011); but in our cases actions undertaken included the formulation of SOPs and other forms of documentation after the initial offshoring decision. So what seemed to be a "wrong" decision, namely to offshore these services, turned out well because the service production system can self-correct. Another observation is that the limited standardisation we observed might be

country-specific and related to the local work culture, i.e. in countries such as the United States we might expect more standardisation beforehand. This is an interesting area for future research.

Task output also changed through a sequence of structural changes and agents' actions, reflecting a client's perception of the changing value of the services. In comparison to the pre-offshoring phase, higher spending was accepted during transition. This spending only really dropped to lower levels after the transition period, consistent with studies on hidden costs of offshoring (Larsen *et al.*, 2013). As a consequence of these changes and consistent with practice theory (Feldman and Orlikowski, 2011), we found that the service production system found a way to reconfigure by enacting the dualities of stability and change (Giddens, 1984).

5.1 Contributions to service operations management, practice theory and offshoring

We have used a novel approach (Machuca *et al*., 2007), applying practice theory to the context of the international production of services. Our research is consistent with the calls by Ostrom *et al*. (2010; 2015) to develop better understanding of a wide range of aspects of services and to study the link between individual as well as unit-level antecedents and outcomes (Subramony and Pugh, 2015).

As a first contribution, we proposed a novel representation of the service production system, arguing that service task execution and task resources jointly determine task outputs. Our model moves beyond the offshoring literature that considers resources (e.g. Aron *et al*., 2008) and organisational design issues separately (e.g. Kumar *et al*., 2009), suggesting that both aspects must be considered simultaneously. Using practice theory, our representation demonstrates that the structure of service production has a mutually reinforcing relationship with the actions of agents, whether they are frontline

employees or managers. We develop insights into how service production systems change over time, namely through recurring effects between structures enabling and constraining agents, and agents shaping structures.

The second contribution is to provide a specific mechanism to describe the evolution of this interrelationship. We highlight how a poor fit between service task execution and task resources is corrected over time because the duality between stability and change implies that episodes of change eventually produce a new equilibrium where execution and resources restabilise. Ultimately, a key conclusion from our work is that service production systems are more robust than might be expected. These systems have a strong ability to self-correct any misfit that may emerge after changes occur. We consider this finding to be our third contribution to SOM. It is part of the answer to challenges SOM faces around service design (Ostrom *et al.*, 2010, 2015), service value (Ostrom *et al.*, 2010) and the importance of the global context (Ostrom *et al.*, 2015).

From the perspective of practice theory we provide a domain extension, as to the best of our knowledge this is the first paper to apply practice theory to SOM. Such domain extensions are especially useful, as they can teach us something about the boundaries of theories. This helped us overcome the tendency to see practice theory as "simply an invitation to pay more attention to what people do" (Nicolini, 2012: 13).

Finally, we provide a process perspective on offshoring, complementary to existing studies focusing on offshoring governance decisions (e.g. Aron *et al*., 2008; Bertrand and Mol, 2013; Lewin *et al*., 2009). We emphasise the need for a dynamic process perspective when studying service offshoring and contribute to a significant research gap. One implication is that performance consequences of offshoring are far from stable over time, implying that the timing of measurement affects observed

relationships. A final implication is that work on offshoring ought to model more explicitly interactions between task resources and task execution.

5.2 Implications for practice

Our study offers several implications to offshoring and SOM practitioners. A key practical recommendation revolves around the importance of balancing service task procedures with the desire of employees to do interesting and challenging work. Task standardisation may be considered a double-edged sword in this sense as it lowers the skill and experience requirements of frontline employees, but it also lowers the ability of given employees to make workable, discrete decisions. Managers must deal with this trade-off as it potentially leads to alienation and the degradation of employees' skill sets, lowering motivation and increasing attrition. They can either moderate the level of standardisation or push standardisation to its limits. This argument is in line with the need for offshore service providers to remain competitive and attain an optimal service price/quality ratio. Our study also indicates that offshore service providers that have the ability to more quickly and more effectively re-align task resources and task execution can gain an edge over their competitors. We suggest one way to grow this ability is to learn from previous re-alignment processes.

6. Conclusion and limitations

We have sought to understand how change, through offshoring, of the three components of a service production system (task execution, resources, and outputs) leads to reconfiguration of this system. Our evidence suggests that this reconfiguration process may not be particularly well planned: top

management does not necessarily implement the orchestration of resources; it may be more bottom-up, where the change in offshore resources leads to a subsequent change in task execution. Over time, task execution moves from discretionary services towards rules-based services. This suggests offshoring may be a self-reinforcing process; offshoring is easier for tasks that are rules-based, yet the act of offshoring also makes tasks more rules-based.

There are several research limitations. We chose to select cases with diverse production processes and from various locations, which is a single country context, India. This choice may have impacted what we found, for instance, on how improvements were being made. Despite the aim to *develop* theory further rather than to *test* theory, generalisation from a restricted number of cases is challenging. Moreover, task output measures were restricted to spending in the form of salaries, training and travel and were argued to reflect the value clients associated with the services. We acknowledge that actual value-in-use might differ from spending but were unable to obtain further information. Furthermore, it may be the case that firms outside our study are more (less) prepared for offshoring, which would affect the dynamics observed. Offshoring is in itself a shifting phenomenon..

Future research could analyse the effect of other changes, such as technological change or outsourcing. It may also look to generalise our findings through larger-scale methods. Finally, in our study we have simply assumed that the level of motivation to work among offshore staff members was similar to that of onshore employees prior to offshoring. Hence we focused on the ability (i.e. the learned skills) of individual offshore staff members to perform tasks, rather than paying attention to their willingness to do so, leaving room for further research around work-related motivation as an important aspect of human resources.

Endnotes

[1] Demurrage is the time when a charterer (the client) stays in possession of a vessel in a port when cargo is not unloaded on time. Demurrage incurs charges the charterer must pay the ship-owner as a "fine". Knowledge of legal regulations and industry experience are necessary to prepare claims and negotiate with clients.

References

Aron, R., Bandyopadhyay, S., Jayanty, S. and Pathak, P. (2008), "Monitoring process quality in off-shore outsourcing: a model and findings from multi-country survey", *Journal of Operations Management*, Vol. 26 No. 1, pp. 303–321.

Barney, J. (1991). "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Bertrand O. and Mol M.J. (2013), "The antecedents and innovation effects of domestic and offshore R&D outsourcing: the contingent impact of cognitive distance and absorptive capacity", *Strategic Management Journal*, Vol. 34 No. 6, pp. 751–776.

Blinder, A.S. (2009), "How many U.S. jobs might be offshorable", *World Economics*, Vol. 10 No. 2, pp. 41–78.

Bowman, C. and Ambrosini, V. (2000), "Value creation versus value capture: towards a coherent definition of value in strategy", *British Journal of Management*, Vol. 11 No. 1, pp. 1–15.

Brandl, K. (2017), "Direct and indirect value creation in offshored knowledge-intensive services", *International Journal of Physical Distribution and Logistics Management*, Vol. 47 No. 1, forthcoming.

Chase, R.B. and Apte, U.M. (2007), "A history of research in service operations: what's the big idea?", *Journal of Operations Management*, Vol. 25 No. 2, pp. 375–386.

Correa, H.L., Ellram, L.M. Scavarda, A.J. and Cooper, M.C. (2007), "An operations management view of the services and goods offering mix", *International Journal of Operations and Production Management*, Vol. 27 No. 5, pp. 444–463.

Dossani, R. and Kenney, M. (2006), "Reflections upon sizing the emerging global labor market", *Academy of Management Perspectives*, Vol. 20 No. 4, pp. 35–41.

Dubois, A. and Gadde, L.E. (2002), "Systematic combining: an abductive approach to case research", *Journal of Business Research*, Vol. 55 No. 7, pp. 553-560.

Eisenhardt, K.M. (1989), "Building theories from case study research", *Academy of Management Review*, Vol. 14 No. 4, pp. 532–550.

Feldman, M. and Orlikowski, W. (2011), "Theorizing practice and practicing theory", *Organization Science*, Vol. 22 No. 5, pp. 1240–1253.

Feldman, M. and Pentland, B. (2003), "Reconceptualizing organizational routines as a source of flexibility and change", *Administrative Science Quarterly*, Vol. 48, pp. 94–118.

Financial Times (2013), "Master of Morocco's outsourcing industry", July 23rd 2013, available at: http://www.ft.com/cms/s/0/9a55faa2-da9a-11e2-a237-00144feab7de.html?siteedition=uk#axzz2oE25o52Q (accessed 11 August 2016).

Giddens, A. (1984), *The Constitution of Society: Outline of the Theory of Structuration*, Polity Press, Cambridge, UK.

Goldstein, S.M., Johnston, R., Duffy, J., and Rao, J. (2002), "The service concept: the missing link in service design research?", *Journal of Operations Management*, Vol. 20 No. 2, pp. 121–134.

Grönroos, C. (1988), "New competition in the service economy: The five rules of service", *International Journal of Operations and Production Management*, Vol. 8 No. 3, pp. 9–19.

Jensen, P.D.Ø. (2011), "A passage to India: a dual case study of activities, processes and resources in offshore outsourcing of advanced services", *Journal of World Business*, Vol. 47 No. 2, pp. 311–326.

Jensen, P.D.Ø. and Pedersen, T. (2011), "The economic geography of offshoring: the fit between activities and local context", *Journal of Management Studies*, Vol. 48 No. 2, pp. 352–372.

Johnston, R. (2005), "Service operations management: return to roots", *International Journal of Operations and Production Management*, Vol. 25 No. 12, pp. 1278–1297.

Ketokivi, M. and Choi, T. (2014), "Renaissance of case research as a scientific method", *Journal of Operations Management*, Vol. 32 No. 5, pp. 232–240.

Kumar, K., van Fenema, P.C. and von Glinow, M.A. (2009), "Offshoring and the global distribution of work: Implications for task interdependence theory and practice", *Journal of International Business Studies*, Vol. 40 No. 4, pp. 642–667.

Langley A. (2007), "Process thinking in strategic organizations", *Strategic Organization,* Vol. 5 No. 3, pp. 271–282.

Larsen, M.M., Manning, S. and Pedersen, T. (2013), "Uncovering the hidden costs of offshoring: the interplay of complexity, organizational design, and experience", *Strategic Management Journal*, Vol. 34 No. 5, pp. 533–552.

Lewin A.Y., Massini, S. and Peeters, C. (2009) "Why are companies offshoring innovation? The emerging global race for talent", *Journal of International Business Studies*, Vol. 40 No. 6, pp. 901–925.

Luo, Y., Wang, S.L., Zheng, Q. and Jayaraman, V. (2012), "Task attributes and process integration in business process offshoring: a perspective of service providers from India and China", *Journal of International Business Studies*, Vol. 43 No. 5, pp. 498–524.

Machuca, J., Gonzalez-Zamora, M. and Aguilar-Escobar, V. (2007), "Service operations management research", *Journal of Operations Management*, Vol. 25 No. 3, pp. 585–603.

Maglio, P., Vargo, S., Caswell, N. and Spohrer, J. (2009). "The service system is the basic abstraction of service science", *Information Systems and e-business Management*, Vol. 7 No. 4, pp. 395–406.

Metters, R. (2008), "A case study of national culture and offshoring services", *International Journal of Operations and Production Management*, Vol. 28 No. 8, pp. 727–747.

Nachum L. (1999), "Measurement of productivity of professional services: an illustration on Swedish management consulting firms", *International Journal of Operations and Production Management*, Vol. 19 No. 9, pp. 922–949.

Nicolini, D. (2012), *Practice Theory, Work, and Organizationization: An Introduction*, Oxford University Press, Oxford, UK.

Ostrom, A.L., Bitner, M.J., Brown, S.W., Burkhard, K.A., Goul, M., Smith-Daniels, V., Demirkan, H., and Rabinovic, E. (2010), Moving forward and making a difference: research priorities for the science of service, *Journal of Service Research*, Vol. 20 No. 10, pp. 1–33.

Ostrom, A.L., Parasuraman, A., Bowen, D.E., Patrício, L., and Voss, C.A. (2015), "Service research priorities in a rapidly changing context", *Journal of Service Research*, Vol. 18 No. 2, pp. 127–159.

Paroutis, S. and Heracleous, L. (2013), "Discourse revisited: dimensions and employment of first-order strategy discourse during institutional adoption", *Strategic Management Journal*, Vol. 34 No. 8, pp. 935–956.

Ponsignon, F., Smart, P.A., and Maull, R.S. (2011), "Service delivery system design: characteristics and contingencies", *International Journal of Operations and Production Management*, Vol. 31 No. 3, pp. 324–349.

Pentland, B. and Feldman, M. (2005), "Organizational routines as a unit of analysis", *Industrial and Corporate Change*, Vol. 14 No. 5, pp. 793–815.

Regner, P. (2008), "Strategy-as-practice and dynamic capabilities: steps towards a dynamic view of strategy", *Human Relations*, Vol. 61 No. 4, pp. 565–588.

Roth A.V. and Menor, L. (2003), "Insights into service operations management: a research agenda", *Production and Operations Management*, Vol. 12 No. 2, pp. 145–164.

Sampson, S.E. (2012), "Visualizing service operations", *Journal of Service Research*, Vol. 15 No. 2, pp. 182–198.

Srikanth, K. and Puranam, P. (2011), "Integrating distributed work: comparing task design, communication, and tacit coordination mechanisms", *Strategic Management Journal*, Vol. 32 No. 8, pp. 849–875.

Stabell, C.B. and Fjeldstad, Ø.D. (1998), "Configuring value for competitive advantage: on chains, shops, and networks", *Strategic Management Journal*, Vol. 19 No. 5, pp. 413–437.

Subramony, M. and Pugh, S.D. (2015), "Services management research: review, integration, and future directions", *Journal of Management*, Vol. 41 No. 1, pp. 349–373.

Thompson, J. (1967), *Organization in Action: Social Science Bases of Administrative Theory*, McGraw-Hill, New York, NY.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002), "Case research in operations management", *International Journal of Operations and Production Management*, Vol. 22 No. 2, pp. 195–219.

Yin, R.K. (2009), *Case Study Research: Design and Methods*, 4th edition, SAGE Publications, Thousand Oaks, CA.

Figures and tables

Figure 1: Main components studied and features of the service production system

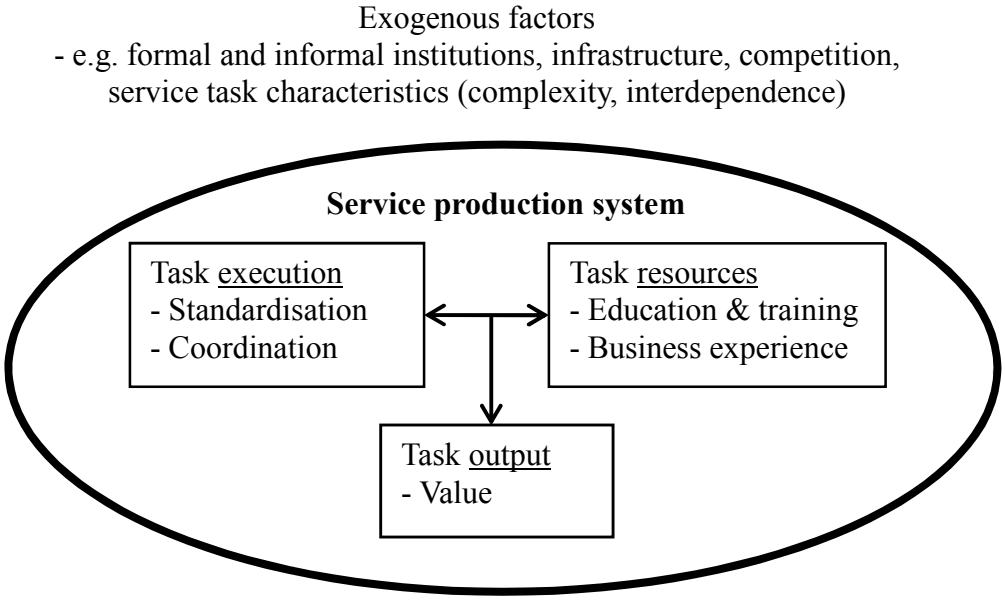

Figure 2: A dynamic service production model

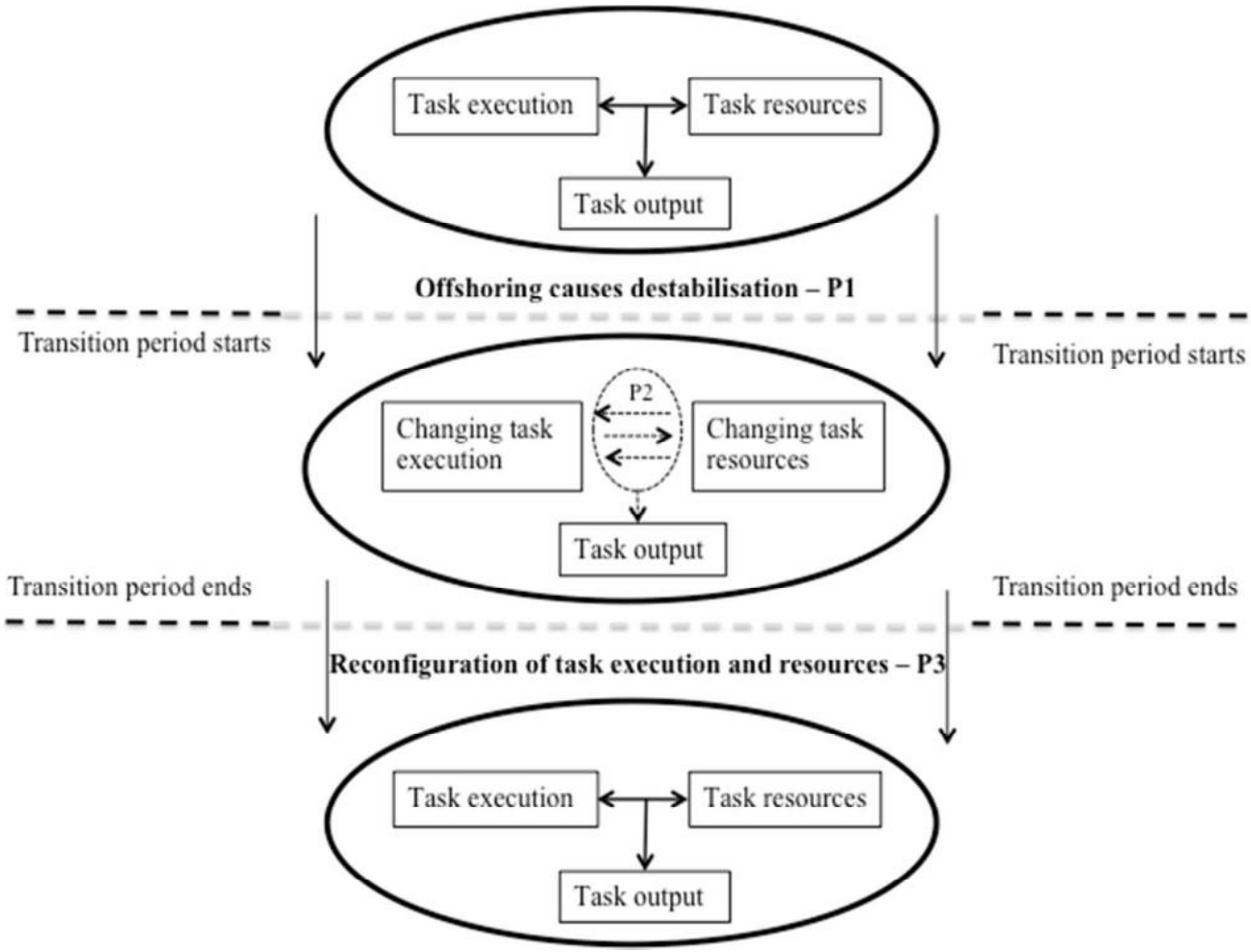

Table 1: Case description

Case	A	B	C	D	E	F
Service	Financial management reporting & reconciliation	Demurrage [1]	Market intelligence	Project management support	Competitive intelligence	IP and R&D research
Nature of services	Medium judgement	High judgement	Medium judgement	Medium judgement	High judgment	High judgement
Description of service tasks	Collection and analysis of financial data	Preparation of demurrage claims and negotiation with client	Report writing and design update of standard financial or operation models	Research and project support	Research and writing of competitor/ industry reports	Research on IP and R&D activities within industry
Service receiver firm synonym	Tankor	Tankor	Terminality	Terminality	Chemiso	Chemiso
Service receiver division (location)	Operations	Operations	Operations	Project Management Office	Strategy	Legal
Onshore location	Denmark, Sweden and Singapore	Denmark	Netherlands, all global terminals	Netherlands	Switzerland, global subsidiaries	Switzerland
Offshore location	India	India	India	India	India	India
Industry	Shipping logistics	Shipping logistics	Container terminals	Container terminals	Chemicals	Chemicals
Offshored since	2010	2011	2010	2010	2006	2008
Offshoring transition period in months	15	12	9	5	18	12
Offshored	Within conglomerate	Within conglomerate	Within conglomerate	Within conglomerate	To external provider	To external provider
No. of interviews (client/provider)	5/11	4/12	6/11	7/11	5/13	3/10

Table 2: Task resources (operational and lower level management)

Case	Phase	Formal education & training		Business experience			Amount
		Formal education	Training[1]	Industry[2]	Firm[2]	Task[2]	FTEs[4]
Case A - Financial management reporting & reconciliation	Pre-offshoring	BSc (Finance, Accounting), practical education	Fairly structured, shadowing	High	High	High	4
	Transition	BCom,[3] MBA Finance, chartered accountant	Fairly structured, shadowing and practical	Low	Low	Moderate	Up to 7
	Post-offshoring	BCom, MBA Finance, chartered accountant	Fairly structured, shadowing and practical	Moderate	Moderate	High	5
Case B - Demurrage	Pre-offshoring	Business graduate, secretary	Unstructured, shadowing	High	High	High	13
	Transition	Engineering degree, BCom,	Structured, shadowing and practical	Low	Low	Low	Up to 15
	Post-offshoring	science degree (nautical, marine), engineering degree, MBA (Finance, Marketing)	Structured, shadowing and practical	Moderate	Moderate	Moderate	11
Case C - Market intelligence	Pre-offshoring	Engineering degree, MBA, MSc, BSc	Unstructured	High	High	Moderate	N/A
	Transition	MSc Finance, BCom	Fairly structured, practical and shadowing	Moderate	Low	High	4
	Post-offshoring	MSc Finance, BCom	Fairly structured, practical and shadowing	High	Moderate	High	3
Case D - Project management support	Pre-offshoring	Mainly engineering degree	Structured	High	High	High	N/A
	Transition	BSc, MBA Finance, BCom	Structured, practical	Low	Low	Low	4
	Post-offshoring	BSc, MBA Finance, BCom	Structured, practical	Moderate	High	Moderate	6
Case E - Competitive intelligence	Pre-offshoring	Mainly engineering degree	Unstructured	High	High	Low	N/A
	Transition	BSc, MBA Finance, BCom	Fairly structured, practical	Low	Low	Moderate	Up to 5
	Post-offshoring	BSc, MBA Finance, BCom	Fairly structured, practical	High	High	High	5
Case F - IP and R&D research	Pre-offshoring	Legal degree, Lawyers	Unstructured	High	High	Moderate	2
	Transition	Legal degree, MBA, engineering degree	Fairly structured, practical	Moderate	Moderate	Low	4
	Post-offshoring	Legal degree, MBAs, engineer degree	Fairly structured, practical	High	High	High	5

Note: [1]Training = level of formal task training is structured or unstructured and can require practical training or shadowing activities; [2]Experience is based on time spent in the industry, the firm, and on the task in comparison to other employees in the respective case; [3]BCom is an undergraduate degree in business equivalent to a BSc in business; [4]Full-time employees (FTEs), operational and lower level management not including top level management.

Table 3: Task execution

Case	Phase	Standardisation	Coordination			
			Integration level[1]	Improvements[2]	Management responsibility[3]	Quality measures
Case A – Financial management reporting & reconciliation	Pre-offshoring	Some standardisation	High	Informal	On	Loose measures
	Transition	Higher standardisation	Reintegration	Informal and formal	On/Off	Design of new measures
	Post-offshoring	High standardisation	Moderate	Formal platforms	Off	Extensive use of measures
Case B - Demurrage	Pre-offshoring	No standardisation	High	Informal	On	No measures
	Transition	Some process standardisation	Moderate	Informal and formal	On/Off	Trial to establish measure
	Post-offshoring	Process standardisation	Low	Formal platforms	Off	Quantitative measures and feedback
Case C - Market intelligence	Pre-offshoring	Some standardisation	Low	Informal	N/A	No measures
	Transition	Some standardisation	Moderate	Formal	On/Off	Design of new measures
	Post-offshoring	Some standardisation	Moderate	Formal platforms	On	Use of quantitative measures
Case D - Project management support	Pre-offshoring	No standardisation	Low	Informal	N/A	No measures
	Transition	Some process standardisation	High	Formal	On/Off	Design of new measures
	Post-offshoring	Some process standardisation	High	Formal platforms	On	New measures and surveys
Case E - Competitive intelligence	Pre-offshoring	No standardisation	Low	Informal	N/A	No measures
	Transition	Process standardisation	Moderate	Formal and informal	On/Off	Design of new measures
	Post-offshoring	Process standardisation	Moderate	Formal and informal	On	New measures and surveys
Case F - IP and R&D research	Pre-offshoring	No standardisation	Moderate	Informal	On	No measures
	Transition	Some process standardisation	Moderate	Formal	On/Off	Design of new measures
	Post-offshoring	Process standardisation	Moderate	Formal and informal	On	New measures and surveys

Note: [1]Integration level = degree of integration of the service in business operations at respective location; [2]Improvements = changes implemented informally or via formal methods and platforms; [3]Management responsibility = location of the responsibility for the service (not including production), either onshore (on) or offshore (off)

Table 4: Task output

Case	Phase	Value Spending[1]
Case A – Financial management reporting & reconciliation	Pre-offshoring	-
	Transition	Higher
	Post-offshoring	Lower
Case B - Demurrage	Pre-offshoring	-
	Transition	Higher
	Post-offshoring	Lower
Case C - Market intelligence	Pre-offshoring	-
	Transition	Lower
	Post-offshoring	Lower
Case D - Project management support	Pre-offshoring	-
	Transition	Same
	Post-offshoring	Lower
Case E - Competitive intelligence	Pre-offshoring	-
	Transition	Higher
	Post-offshoring	Lower
Case F – IP and R&D research	Pre-offshoring	-
	Transition	Higher
	Post-offshoring	Same

Note: [1]Spending is calculated out of salaries, training, and travels costs for employees and additional costs spent in service production. Baseline is the pre-offshoring spending; spending in the transition and post-offshoring phase can be higher, lower or the same as pre-offshoring.